Medicare Participating Heart Bypass Center Demonstration:

Final Evaluation Report: Volume II - Marketing Activities of Participating Hospitals

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I. INTRODUCTION

The Health Care Financing Administration (HCFA) is currently conducting a demonstration to test the feasibility and cost effectiveness of paying hospitals and doctors a single negotiated amount for all hospital and inpatient physician services associated with coronary artery bypass graft (CABG) surgery. HCFA selected seven hospitals to serve as demonstration sites based on the completeness of the package of services each was willing to provide Medicare beneficiaries under the demonstration, the quality of care provided by the hospital and its physicians, and the size of the discount the hospital and doctors were willing to accept for their services. Four sites joined the demonstration in May of 1991. These hospitals are:

- Saint Joseph Mercy Hospital (SJMH) in Ann Arbor, Michigan;
- Boston University Medical Center Hospital (BUMCH) in Boston, Massachusetts;
- Ohio State University Hospital (OSUH) in Columbus, Ohio; and
- Saint Joseph Hospital of Atlanta (SJHA) in Atlanta, Georgia.

HCFA expanded the demonstration in June 1993 to include three new sites. These hospitals are:

- St. Vincent Hospital and Medical Center (SVHMC)in Portland, Oregon;
- St. Luke's Episcopal Hospital (SLEH) in Houston, Texas; and
- Methodist Hospital (MHI) in Indianapolis, Indiana.

Under the terms of the demonstration, hospitals and physicians receive a global payment (Medicare Parts A and B) for all CABG surgeries performed on Medicare beneficiaries that fall within DRGs 106 and 107. HCFA negotiated the price it would pay for the package of hospital and physician services with each site prior to its joining the demonstration. The negotiated rate is different for each of the sites, but all are below the average rate the Medicare program is currently paying for CABG surgery (Parts A and B combined). Participating providers accept the negotiated rate as payment in full. The expectation is that cost efficiencies realized through improved coordination of services and increased volume will allow the sites to provide the needed services at (or below) the negotiated rate.

The marketing component of the Medicare Participating Heart Bypass Center demonstration evaluation is designed to provide HCFA with the information it needs to determine the success of the participating hospitals in promoting the demonstration and

increasing the number of CABG surgeries performed each year at their institutions. All hospitals considered for inclusion in the demonstration were required to provide HCFA with a written statement describing what they planned to do to increase CABG volume if selected. Site selection did not hinge on this part of the application, but the feasibility of the action plan set out in these statements was one of the elements considered. Following their selection, HCFA asked the seven participating hospitals to develop detailed marketing plans, describing the actions in which they planned to engage as a way to build public awareness of their designation as a Medicare Heart Bypass Center and alter existing physician referral patterns.

The marketing evaluation has in two distinct phases. This report summarizes the activities and findings of the first. This component of the evaluation had five main elements:

- A review of the marketing objectives and promotional activities of the participating hospitals;
- A review of the services the participating hospitals are providing to Medicare beneficiaries, their families, and their referring physicians under the demonstration;
- An examination of changes in CABG surgery volumes within each of the demonstration markets and at each of the demonstration sites during the demonstration period;
- An examination of factors that may have produced observed changes in CABG volume, such as changes in physician referral patterns, market size, or the characteristics of persons seeking care at the demonstration sites; and
- An examination of patient response to the demonstration.

Some aspects of this phase of the marketing evaluation will continue in the second, some will be dropped, and others will be added. The results of both phases, when taken together, will help HCFA determine the extent to which the participating hospitals are able to increase volume while reducing costs. The ability of the hospitals and physicians to modify their product (i.e., the nature and duration of services provided in conjunction with DRGs 106 and 107) without compromising quality or adversely affecting beneficiary satisfaction and promote public awareness of their designation are key determinants of how successful the hospitals are likely to be in this regard.

This report begins with a description of the hospitals participating in the Heart Bypass Center Demonstration and the markets in which each is located (Chapter II). The focus, structure, and content of the hospitals' marketing programs are reviewed next (Chapter III). This

information serves as a reference point of the detailed descriptions of the hospitals' marketing efforts that follow (Chapter IV). The remaining chapters examine patient volume and physician referral patterns (Chapter V) and consumer satisfaction (Chapter VI). The report concludes with a summary of key findings from the first phase of the marketing evaluation (Chapter VII).

II. OVERVIEW OF THE PARTICIPATING HOSPITALS AND THEIR MARKETS

The marketing programs of the Medicare Participating Heart Bypass Centers are tailored to the characteristics of the institutions taking pat in the demonstrations and markets in which each is located. Hospital and market characteristics vary along a number of important dimensions. The key similarities and differences between the hospitals and their individual markets are summarized in the sections below.

A. Hospital Characteristics

As seen in Exhibit II-1, the Medicare Participating Bypass Centers vary in terms of capacity, location, and range of key services. Three of the seven hospitals are operating below capacity. Four of the hospitals are located in urban areas, including one hospital in the heart of the 7th largest metropolitan area in the United States. One of the hospitals is clearly suburban, while the remaining two hospitals are located on the fringe of their metropolitan areas. Not surprisingly, all of the hospitals noted cardiology or cardiovascular surgery as key service lines. Other service lines common among the hospitals include orthopedics and neurology.

The staff size, composition, and configuration of the participating hospitals also differ. All but two of the hospitals have an academic affiliation. Most of the hospitals have an open medical staff. In one case, the cardiovascular surgery staff is closed while the cardiology staff is open. The number of physicians affiliated with each hospital varies from 500 to 1,500. Similarly, the size of the cardiology staff varies from 28 to 81 physicians and the size of the cardiovascular surgery staff from 4 to 19. The size of the Medicare Bypass programs, in terms of volume of surgeries performed at each hospital, ranged from 149 to 761 in calendar year 1993.[1]

B. Hospital Markets

The population demographics and managed care environment vary across the seven demonstration sites.

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[1] Based on bypass surgeries performed that fall within DRG 106, DRG 107, and DRG 108 (with a procedure code of 36.10 - 36.15 or 36.19).

Exhibit II-1

Characteristics of the Medicare Heart Bypass Center Hospitals

Characteristic	SJMH	OSUH	BUMCH	SJHA	SVMCH	SLEH	MHI
Total # Licensed Beds	671	963	311	346	451	949	1,120
Total # Open Beds	671	699	250	346	451	642	980
Total # Open Cardio-Thoracic Beds	N/A	104	37	N/A	18	230	43
Location (i.e. urban, suburban, central city)	Metropolitan Fringe	Urban	Central City	Metropolitan Fringe	Suburban	Urban	Urban
Key Service Lines	•Cardiology •Cardiac Surgery •Obstetrics •Neurosciences	•Cardiovascular •Women's Health •Transplant •Neurosciences •Rehabilitation	•Heart Care •Neurosciences •Emergency Medicine and Critical Care •Elderly Care •Cancer Care •Women's Health	•Cardiology •CV Surgery •Vascular surgery •Gastroenterology •Oncology •Orthopedics	•Heart, Cancer •Women/Children •Neuro-musculoskeletal •Medicine/ Prevention/ Primary Care •Chronic Care •Occupational Health	•Cardiovascular •Orthopedics •Women's Health •Digestive •Oncology •Urology •Neurology	•Cardiovascular •Orthopedics •Neurologic System •Gastroenterology
Academic Affiliation	No	Yes	Yes	No	Yes	Yes	Yes

Exhibit II-1 (continued)

Characteristics of the Medicare Heart Bypass Center Hospitals

Characteristic	SJMH	OSUH	BUMCH	SJHA	SVMCH	SLEH	MHI
Medical Staff Configuration (open/closed)	Open	Closed	Closed	Open	Open	CV Surgery Closed Cardiology Open	Open
Total # Physicians Affiliated w/ Hospital	500	477	648	Over 700	1,100	1,500	1,156
Total # Cardiologists	28[a]	29	32[b]	81	41 (on staff) 17 (Use St. Vincent as primary hospital)	72	62
Total # CV Surgeons	5	7	4	19	11	8	8

[a] Seven of these physicians primarily practice at satellite sites.
[b] Five of these physicians are at Boston City Hospital. Another five physicians are in private practices with admitting privileges at BUMCH.

1. Population Demographics

As seen in Exhibit II-2, the number of residents living in each hospital market, their gender distribution, and their rate of ischemic heart disease varies widely across each area. All of the hospital markets have a higher proportion of elderly female than elderly male residents. Ann Arbor has the smallest total population, with 490 thousand residents, while Boston has the largest, approximately 6 million residents. Similarly, Boston has the highest proportion of residents over the age of 65 (12.7 percent), with Portland following closely (12 percent). Atlanta (8 percent) and Houston (7.1 percent) have among the lowest percentages of people who are over age 65. With the exception of Houston, market area trends for heart disease reflect the age of area residents. For example, the rate of ischemic heart disease per 100,000 residents is highest in Boston and lowest in Ann Arbor and Atlanta.

2. Market Characteristics

The composition of each hospital market has changed little since the beginning of the demonstration, although the number of competing hospitals within each market varies widely. However, the number of hospitals is likely to shrink as hospitals begin to merge and consolidate in order to remain competitive in a managed care environment. The number of hospitals in a given site's market varies from 6 to 62. The number performing bypass surgery in a site's market ranges from 2 to 20. Only one hospital reported losing a hospital in its market.

Trends in the demand for Medicare bypass surgery vary across the markets, as seen in Exhibit II-3. In some cases, the volume of Medicare bypass surgeries performed has increased by one hundred or more since 1990. In other cases, the demand has increased more modestly or decreased during that time period. The market position of the hospitals also differs. Some hospitals are market leaders, while others command a relatively small share of the Medicare bypass market.

Where available, payer mix data for all hospital services shows a growth in managed care and Medicare. In some cases, the proportion of all services reimbursed by Medicare remained stable from the beginning of the demonstration to the conclusion of the most recent demonstration

Exhibit II-2

Demonstration Market Demographics

	Ann Arbor, MI	Columbus, OH	Boston, MA	Atlanta, GA	Portland, OR	Houston, TX	Indianapolis, IN
Total Population[a]	490,000	1,345,500	5,970,600	2,959,900	1,515,700	3,322,000	1,380,400
Percent/No. > 65	8.5% (41,759)	10.0% (134,151)	12.7% (760,854)	8.0% (237,581)	12.0% (181,683)	7.1% (235,697)	11.4% (157,200)
Percent/No. Females > 65	5.1% (25,053)	6.1% (82,604)	7.9% (471,508)	5.0% (147,334)	7.2% (108,731)	4.2% (140,961)	7.0% (96,660)
Percent/No. Males > 65	3.4% (16,706)	3.8% (51,547)	4.9% (289,346)	3.1% (90,247)	4.8% (72,952)	2.9% (94,736)	4.4% (60,540)
Rate of Ischemic Heart Disease Per 100,000[b]	75.7 (Ann Arbor) 212.8 (MI)	135.0 (Columbus) 230.4 (OH)	181.1 (Boston) 205.9 (MA)	95.3 (Atlanta) 154.7 (GA)	161.2 (Portland) 194.8 (OR)	110.9 (Houston) 145.4 (TX)	165.4 (Indianapolis) 222.6 (IN)

[a] Total population figures and age/gender distributions calculated from Area Resource File and reflect the 1990 population.
[b] Rates calculated based on April 1990 Census Population estimates and 1989 Vital and Health Statistics ischemic heart disease deaths estimates.

Exhibit II-3
Total Medicare Bypass Volume and Market Share Ranking 1990-1993[a]

Hospital	1990b			1993b			Hospital Volume Change	Market Volume Change
	Volume	Share	Rank	Volume	Share	Rank	1990-1993	1990-1993
SJHA	604	37.6%	1	761	42.1%	1	26.0%	12.6%
BUMCH[c]	249	9.8%	7	223	7.9%	7	(10.0%)	11.4%
OSUH[d]	131	5.1%	7	149	5.4%	6	14.0%	7.6%
SJMH[e]	284	10.2%	3	443	15.1%	2	56.0%	5.7%
SVMCH	393	43.6%	1	491	50.8%	1	25.0%	7.1%
MHI[f]	352	28.4%	2	339	23.9%	2	(4.0%)	14.7%
SLEH	686	33.5%	1	674	31.9%	1	(2.0%)	3.3%

a Based on all Medicare heart bypass operations performed in the market that fall within DRG 106 or DRG 107 and cases that fall within DRG 108 with a procedure code of 36.10-36.15 or 36.19.

b Calendar year data, based on MedPAR files for 1990 and 1993. 1993 values are estimates based on discharges through September 30th.

c BUMCH is in a competitive market; no one hospital has over 16 percent of the market.

d OSUH is located in a market that is dominated by two hospitals, one of which typically captures roughly a third of the market.

e SJMH is in a competitive market; the market leader typically captures 17 percent of the market.

f MHI's market is dominated by one hospital that captures nearly half of the total market.

year. Available payer data for cardiovascular services reveals reductions in the proportion of services paid by Medicare complemented by growth in managed care payments.

3. Managed Care

Available hospital market data reflects the growing presence of managed care in the participating sites health care market place. As seen in Exhibit II-4, managed care penetration has increased over time in each of the demonstration markets. For the hospitals with available data, shares of the managed care market for inpatient and cardiovascular services increased or remained stable. In most cases, the hospitals had a greater percentage of the managed care market for inpatient services than for cardiovascular services.

Some of the demonstration sites have been more successful than others in attracting managed care contracts. Two hospitals have added at least eight managed care contracts since the beginning of the demonstration. For one of these hospitals, managed care contracts for cardiac surgery accounted for the majority of this growth. In most hospitals, the number of managed care

contracts for cardiac surgery, package price contracts, and package price contracts for cardiac surgery remained relatively constant.

Exhibit II-4

Hospital Market Characteristics at the beginning of the Demonstration and at the End of the Most Recent Demonstration Year[a]

Payer Mix- All hospital services[b]	Original Sites								Expansion Sites					
	SJMH		OSUH		BUMCH		SJHA		SVMCH		SLEH		MHI	
	Demo Start	End Demo Year 3	Demo Start	End Demo Year 3	Demo Start	End Demo Year 3	Demo Start	End Demo Year 3	Demo Start	End Demo Year 1	Demo Start	End Demo Year 1	Demo Start	End Demo Year 1
Medicare	25%	36.7%	23%	25%	44.4	46.6	N/A	49%	31%	32%	29.1%	29.2%	37%	37%
Medicaid	7.6%	7.4%	18%	29%	8.2	8.1	N/A	2%	2%	2%	10.6%	9.4%	11%	13%
Managed Care	14.9%	15.7%	40%[c]	36%	*	14.2	N/A	15%	31%	40%	32.8%	38.4%	13%	17%
Non-Managed Care	40.4%	38.1%	N/A	N/A	36.7	21.4	N/A	34%	36%	27%	18%	16.1%	30%	26%
Other	1.5%	2.2%	19%	10%	10.7	9.7	N/A	(incl in non-managed care)	N/A	N/A	9.5%	6.9%	9%	7%

*At this time, managed care payors included with commited payors in non-managed care percent.

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a For the original sites (Boston, Ann Arbor, Atlanta, Ohio) the demonstration began in June 1991. For the expansion sites, the demonstration began in June 1993. For all sites, the most recent year data are for 1993.

b The information presented in this exhibit was supplied by the participating hospitals.

c For both time periods, category includes all private insurance, including non-managed care.

EXHIBIT II-4 (continued)

Hospital Market Characteristics at the beginning of the Demonstration and at the End of the Most Recent Demonstration Year

Payer Mix- Cardiovascular services (All)[d,e]														
	Original Sites								**Expansion Sites**					
	SJMH		**OSUH**		**BUMCH**		**SJHA**		**SVMCH**		**SLEH**		**MHI**	
	Demo Start	End Demo Year 3	Demo Start	End Demo Year 3	Demo Start	End Demo Year 3[e]	Demo Start	End Demo Year 3	Demo Start	End Demo Year 1	Demo Start	End Demo Year 1	Demo Start	End Demo Year 1
Medicare	49.6%	50.2%	46%	25%	N/A	49.6	N/A	44%	34%[f]	30%	48.7%	50.4%	59%	47%
Medicaid	3.7%	3.3%	7%	13%	N/A	4.2	N/A	2%	1%	1%	2.6%	2.0%	3%	4%
Other Managed Care	6.3%	6.4%	34%[g]	29%	N/A	8.9	N/A	16%	50%	55%	16.7%	22.9%	8%	10%
Non-Managed Care	39.0%	38.2%	N/A	23%	N/A	9.6	N/A	38%	15%	14%	23.3%	16.6%	23%	36%
Other	1.3%	1.9%	13%	10%	N/A	27.6	N/A	(incl. in non-managed care)	N/A	N/A	8.7%	8.0%	7%	3%

d The information presented in this exhibit was supplied by the participating hospitals.
e Figures represent Cardiothoracic Surgery.
f Payer mix data are for open heart surgery only.
g For both time periods, category includes all private insurance, including non-managed care.

Exhibit II-4 (continued)

Hospital Market Characteristics at the beginning of the Demonstration and at the End of the Most Recent Demonstration Year

Managed Care[h]	Original Sites								Expansion Sites					
	SJMH		OSUH		BUMCH		SJHA		SVMCH		SLEH		MHI	
	Demo Start	End Demo Year 3	Demo Start	End Demo Year 3	Demo Start	End Demo Year 3	Demo Start	End Demo Year 3	Demo Start	End Demo Year 1	Demo Start	End Demo Year 1	Demo Start	End Demo Year 1
Managed care penetration in market	30%	50%	N/A	40%	N/A	39.5	60-70% PPO 10% HMO	40-50% PPO 20% HMO	65%	79%	60%	65%	15%	18%
Hospital's percent of managed care market-all services	14.9%	15.7%	N/A	36%	N/A	16	N/A	N/A	N/A	N/A	74%	77.8%	40%	40%
Hospital's percent of managed care market - CV services	6.3%	6.4%	N/A	36%	N/A		N/A	N/A	N/A	N/A	74%	77.8%	40%	40%
Hospital's total # managed care contracts	1	2	N/A	N/A	N/A	9	N/A	55	20	21	53	65	30	38
Hospital's total # managed care contracts - cardiac surgery	1	2	N/A	N/A	6	6	N/A	2	17	18	7	7	26	33
Total # package price contracts (including cardiac)	0	1	N/A	N/A	1	2	N/A	1	5	6	21	21	2	2
Total # package price contracts for cardiac surgery	0	2	N/A	N/A	1	2	N/A	3[i]	5	6	17	17	2	2

h The information presented in this exhibit was supplied by the participating hospitals.
i Includes pending contracts for global package price cardiology and cardiovascular surgery services.

III. HOSPITAL MARKETING WITHIN THE CONTEXT OF THE DEMONSTRATION

A. Background

To be successful in today's marketplace, hospitals must have a detailed knowledge of the needs and wants of their current and future customers. They must also have sufficient resources at their disposal to produce the products and services demanded by those customers. In addition, hospitals must design and implement effective communication programs, as well as develop and maintain networks that will channel a sufficient volume of customers to their doors each year. Central to this effort is the need for hospitals to create a differential advantage over their competitors.

There are various ways in which hospitals can distinguish their products from those of their competitors. Most of these strategies fall within the four "P's" of marketing: Product, Price, Place, and Promotion. A successful marketing effort is based on a carefully planned strategy that addresses each of these elements. The demonstration hospitals marketing programs address aspects of these elements, so it is important to understand what each embodies and the contribution each makes to the whole.

Product. A hospital's *products* are the services that it develops to satisfy a consumer need. The demonstration focuses on two products: coronary artery bypass graft surgery with a cardiac catheterization (DRG 106) and coronary artery bypass graft surgery without cardiac catheterization (DRG 107). Under the demonstration, the product is sold as a package that includes both hospital and physician services. The two demonstration products are part of a line of products that each of the hospitals offers to consumers in their respective markets who suffer from coronary artery disease. The hospitals' other offerings within this product line use less invasive procedures (such as PTCA, medical management, and lifestyle changes) to alleviate symptoms and reduce the threat of death and disability.

While the demonstration is built around the same two procedures, each of the hospitals participating in the demonstration is offering substantially different products to consumers within their respective markets. These differences involve the manner in

which the hospitals produce the demonstration products (such as the qualifications, number, and types of medical personnel involved in delivering a unit of service, in this instance DRG 106 or 107, or the equipment used), variations in the number and attributes of the goods and services the hospital provides patients admitted for care (such as free TV, daily newspapers, or valet parking) and their referring physicians, as well as any special services the hospital may have decided to offer patients under the demonstration (such as nutrition counseling or cardiac rehabilitation). Information would be needed on all CABG products being offered within the demonstration markets (i.e., the attributes of DRG 106 and DRG 107 CABG services available at each of the hospitals providing such services in the seven demonstration markets) in order to determine the extent to which product features influence the ability of the participating hospitals to increase CABG volume under the demonstration.

Price. From the consumer's perspective, *price* includes both the actual dollar value of any payments that he or she may be required to make in conjunction with the purchase or use of a product (such as out of pocket charges associated with a hospital episode of illness, transportation costs, parking fees, charges for lodgings, etc.) as well as non-monetary costs associated with that transaction (such as expenditures of time and energy, anxiety, and hassle factors, such as dealing with multiple bills from hospitals and doctors following an episode of illness).[3] The discounted package price negotiated between HCFA and the hospitals is not likely to serve as a strong inducement to Medicare beneficiaries, especially if they have supplemental insurance. Each faces the same out-of-pocket expenses for the base product no matter where he or she goes for care. Beneficiaries are much more likely to focus on "fringe" costs, such as the cost of transportation to and from the hospital and doctors offices, the cost of hotel accommodations for family members, and the cost of parking, as well as any non-monetary costs they may perceive to be associated with use of a particular provider.

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[3] Kotler, Philip and Andreasen, Alan. *Strategic Marketing for Nonprofit Organizations.* (3rd ed.) Englewood Cliffs, NJ: Prentice-Hall Inc., 1987 and Ireland, Richard, "Marketing: A New Opportunity for Hospital Management." *Health Care Marketing: Issues and Trends*, ed. Phillip D. Cooper. Rockville, MD: Aspen Systems Corporation, 1985.

Place. In the world of hospital marketing, *place* refers to the attributes of the facility or facilities where products and services are provided. Thus, place refers to factors that determine the accessibility of services, such as the hours of operation for demonstration hospital admitting offices, the length of the waiting list for surgery, or the proximity of hospital departments one to another when visits to multiple doctors or to multiple diagnostic testing facilities are required as part of the diagnostic work-up or follow-up care. Place also refers to the actual location of the hospital (e.g., central city, urban, suburban) and factors that influence the ability of consumers to gain access to the hospital by using various forms of transportation. In addition, place refers to the attributes of the hospitals physical plant (e.g., age, condition) and how readily patients and their families are able to make their way to desired destinations. How consumers view the place in which they will receive CABG surgery under the demonstration is an important determinant of the ability of the participating hospitals to increase the number of bypass surgeries they perform each year.

Promotion. Hospitals use *promotion* to make consumers aware of the hospital and its products. As an element of the marketing mix, promotion has four objectives:

- To inform and educate consumers of the availability of the service;
- To remind present and former consumers of the continued existence of the service and why they should use them should the need arise;
- To persuade potential consumers that the service is worth buying; and
- To inform the consumer of where and how to obtain the service.[4]

Hospitals have a variety of tools at their disposal to get their messages before their target audiences. Most fall within the following categories: advertising, publicity, events, and personal marketing.

The marketing programs of the demonstration hospitals began with the market research and analysis each conducted to develop its application for participation in the demonstration. The application described the range of services the hospital would include under the demonstration,

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[4] Jon G. Keith, "Marketing Health Care: What the Recent Literature is Telling Us," Health Care Marketing: Issues and Trends, ed. Philip D. Cooper (Rockville, MD: Aspen Systems Corporation, 1985).

the price it would charge HCFA and any concessions it was willing to offer beneficiaries to reduce their out-of-pocket expenses, the place where these services would be provided, and the activities in which the hospital planned to engage to inform consumers about the demonstration. Each of these elements has evolved over the course of the demonstration in response to changes in the health care market place, clinical practice, extent technology, or the hospital's infrastructure. For example, additional services may have been included in the package price, certain hospital services may have been made more accessible, and original promotional strategies may have been adapted.

B. The Government's Objectives

HCFA undertook this study to learn more about the extent to which hospitals participating in a narrowly defined demonstration could develop a market strategy (i.e., product, price, place, promotion) that is attractive to Medicare beneficiaries and their referring physicians and use it to aggressively promote the demonstration, and thereby increase the volume of Medicare CABG surgeries performed each year. Information gathered as part of the evaluation will help HCFA monitor what the participating hospitals are doing to achieve their marketing objectives and identify what strategies are most effective. Data collected through the marketing component of the demonstration evaluation will also help HCFA shape future demonstrations.

When the demonstration began, HCFA expected the participating hospitals would engage in a series of discrete marketing efforts over the life of the demonstration that would serve to increase patient volume at the sites. Since the success of the demonstration was expected to rely on positive public response, the needs of the public would determine hospital marketing efforts. Marketing strategies would differ greatly across the demonstration sites, depending upon the competition within the community, hospital occupancy rates, medical staff competition, hospital marketing budgets, as well as the staffing and experience of the marketing department.

Physicians and patients were viewed as the key target audiences for these efforts. Promotional activities targeted at physicians within and beyond traditional service areas were expected to increase physician referrals by informing physicians about the HCFA demonstration, the advantages it would offer to patients, and the high quality of services offered at each

demonstration site. Activities geared toward increasing public awareness were considered important because HCFA believed that many potential patients (both Medicare and non-Medicare) and other payers might request referrals to the demonstration sites after they heard about package pricing.

At the outset, the marketing plans of the original four demonstrations were very similar, although each site had developed marketing strategies specific to its individual market. The intended nature of the promotional activities and level of effort varied considerably across sites. Sites intended to target physician audiences via direct mail campaigns, advertisements in local, state, and regional medical journals, and physician exhibits, meetings, conferences, and symposia. Potential patients were expected to be reached through the general media, as well as through senior-directed and health-related publications, direct mail campaigns to certain patient and interest groups, lectures, and slide shows. Brochures targeting physicians and patients would be developed and disseminated widely.

C. Overview of the Hospital's Marketing Programs

This section provides a brief overview of the marketing programs and activities of the hospitals participating in the Medicare Heart Bypass Center demonstration. The material presented in this section is based on qualitative information supplied by each of the demonstration sites since the start of the demonstration. The information relates to various aspects of their programs, such as updated marketing plans and budgets, promotional materials, and newspaper articles. Lewin-VHI also conducted interviews on-site and by telephone with representatives of the seven sites to elicit information about the status of their programs and factors that have served to facilitate or hamper their efforts.

Although the marketing programs of the participation hospitals are tailored to the strategic objectives of each institution and the characteristics of the markets in which each is located, they share similar objectives, are based on similar strategies, and are targeted to similar audiences. The information that follows highlights the nature of these similarities. A more detailed review of each hospital's program is contained in Chapter IV.

1. Program Objectives

The primary marketing objective of the demonstration projects has changed from the one each identified in its original application to be a Medicare Heart Bypass Center. The hospitals no longer cite increased Medicare CABG volume as the primary objective of their effort. As a result, the hospitals are placing much less emphasis on strategies designed to increase the number of Medicare beneficiaries coming to them for CABG surgery each year. Instead, the hospitals are expending their resources on efforts aimed at enhancing the general public's awareness and impression of them as an institution, as well as the services they provide. This strategy is in keeping with what is now their primary objective -- establishing themselves as centers of excellence in the minds of third party payers, the medical community, and the general public.

The participating hospitals have also tried to achieve a related objective over the course of the demonstration, placing the demonstration in the forefront of national discussions of health care reform. During the first and second years of the demonstration, the hospitals joined together and retained a public relations firm in an effort to achieve this objective. As a result, the efforts of the hospitals to educate and inform hospital staff, referring physicians, and the patients who use their services about the project were broadened to include audiences on a regional and national level.

2. Promotional Strategies

The strategies used by the demonstration sites to achieve the objectives outlined above are quite similar. The hospitals promote the demonstration within the context of broader efforts to market the hospital or their heart programs through paid advertising, media relations, patient and physician communications, and presentations. But, the emphasis on and use of these strategies varies across hospitals.

With the assistance of The Wussow Consulting Group, all of the hospitals collectively participated in the development of a national media strategy and used a national press conference to release interim data and preliminary conclusions on the demonstration. Each of the participating sites also seeks local and regional media coverage at regular intervals, or whenever

they encounter a situation in which the media are likely to be interested, such as when a local "celebrity" undergoes bypass surgery at the hospital.

Five of the hospitals have used paid advertising to promote their services. However, reference to the demonstration in such efforts has been limited. Ohio State University, Methodist Hospital, and Boston University Medical Center Hospital used paid advertising most aggressively.

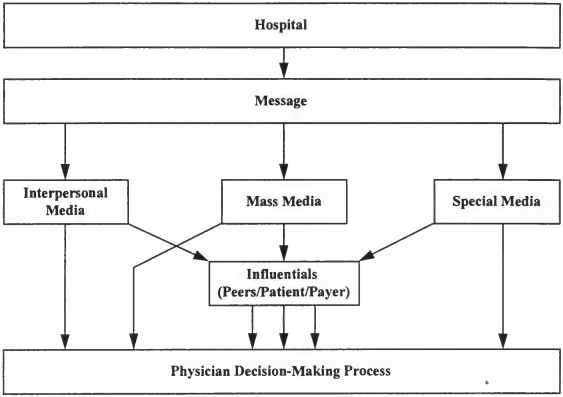
In addition, all of the institutions distributed materials about the demonstration to physicians and patients as part of their marketing strategy. Some hospitals distributed information on the demonstration to physicians and their patients using direct mail, while others distributed similar materials via referring physicians, hospital staff or during the admission process.

Finally, all of the demonstration projects used presentations to promote the demonstration with key audiences. The marketing strategies of Saint Joseph's of Atlanta and Saint Joseph's Mercy Hospital have been the most heavily focused on conducting presentations about the demonstration to a variety of audiences on a local, regional, and national level.

3. Target Audience

The hospitals view patients, physicians, and the general public as their primary target audiences, the same core groups as identified in their marketing plans. The physicians targeted included those affiliated with the hospital, those who have referred patients to the hospital in the past, and those who are not currently part of the hospital's established referral network. Most of the hospitals broadened their target audience over the course of the demonstration to include self insured businesses, payers, and other provider institutions. The ultimate objective of the hospitals' activities is to influence the primary care physician's choice of hospital when they encounter a patient whose condition may require hospital-based diagnostic services, in-patient care, or surgery, particularly CABG. The relationship between the participating hospitals, the messages and communication channels they employ, and their target audiences is presented in Exhibits III-1 and III-2.

Exhibit III-1
Influencing Physician Referral Behavior



Based on Kotler, Philip and Adreasen, Alan, "Strategic Marketing For Nonprofit Organizations," 3rd ed., Prentice-Hall, 1987, and Journal of Healthcare Marketing, Vol 10, No 4 (December 1990), p 57

Exhibit III-2
Physician Information Sources

Interpersonal Media: Met physician at CME, national symposiums, social event or medical society meetings; talked to physician by phone.

Mass Media: TV, radio, newspaper, magazine

Special Media: Brochure, direct mail, medical journals, books, newsletters

Peer: Physician's peers including partners in practice, physician friends, physician's medical director

Patient: The person requiring the physician's care or the members of that person's immediate family.

Payer: Employer, insurance carrier, HMO/PPO

Based on: Kotler, Philip and Adreasen, Alan, "Strategic Marketing For Nonprofit Organizations," 3rd ed., Prentice-Hall, 1987, and Journal of Healthcare Marketing, Vol. 10, No 4 (December 1990), p.57.

IV. MARKETING ACTIVITIES OF THE DEMONSTRATION SITES

This section reviews the marketing activities of the seven hospitals participating in the Medicare Heart Bypass Center demonstration from the time they joined the demonstration to the present. Where known, information is also provided on the programs and activities in which the sites plan to engage over the next year as part of their continuing effort to maintain and expand their CABG surgery volume. An overview of the hospital's marketing programs under the demonstration is presented in Exhibit IV-1. Exhibit IV-2 depicts the relative emphasis each site is placing on the various components of a fully developed promotional campaign.

A. Saint Joseph's Mercy Hospital

Saint Joseph's Mercy Hospital (SJMH) is a 671 bed private, not-for-profit, tertiary care facility located in Ann Arbor, Michigan. The hospital is part of the Catherine McAuley Health System, a not-for-profit multi-facility system based in Ann Arbor. SJMH and the other hospitals and ambulatory care services that comprise the Catherine McAuley Health System provide medical and surgical services, rehabilitation therapy, mental and chemical dependency programs, urgent care, and emergency care to residents of three counties in Southern Michigan.

There are five hospitals in the Ann Arbor area in addition to SJMH. Saint Joseph's Heart Institute is one of 20 open heart programs in the state, and one of two programs in the Ann Arbor area. The competing heart program in the Ann Arbor area is approximately four miles away from SJMH. Saint Joseph's has approximately 30 percent of the local market (i.e., persons living within a 60 mile radius of the hospital) for inpatient services overall. In 1992, Saint Joseph's had approximately 11 percent of the market for Medicare bypass surgery[5] in the Ann Arbor area.[6] Saint Joseph's share of the Medicare bypass market increased in 1993 to approximately 15 percent, the second highest share of the market among its competitors. The number of Medicare

[5] Based on DRG 106, DRG 107 and cases in DRG 108 with a procedure code of 36.10-36.15 or 36.19.

[6] Dayhoff, D.A., Cromwell, J., McConnell A.N. National and Market Area Trends in Heart Bypass Surgery: An Interim Report on Medicare Bypass Centers, December 1993. 1993 Medicare bypass surgery data are based on analyses conducted by Health Economics Research as part of their evaluation of national and market area trends in heart bypass surgery.

Exhibit IV-1

Overview of the Marketing Communications Programs of the CABG Demonstration Hospitals

Marketing Program Characteristic	Demonstration Hospitals						
	SJMH	OSUH	BUMCH	SJHA	SVMCH	SLEH	MHI
Primary Objective	Increase Awareness of Heart Institute at SJMH	Increase Awareness of OSUH Hospital	Increase Awareness of BUMCH Increase Awareness of CABG Demo	Increase Awareness of SJ Hospital and its Heart Institute	Increase total enrollment in Providence Health System Increase awareness of CABG demo	Increase Awareness of St. Luke's and the CABG demo	Increase Awareness of Methodist Hospital
Message Themes	Cost conscious Quality care	Cost conscious State-of-the-art services Quality care	Quality care State-of-the-art services Comprehensive heart care Cost conscious	Cost conscious Quality care	Comprehensive Services Quality care	Quality care State-of-the-art services Cost conscious	Quality care Cost conscious Provider of choice
Communication Channels	Personal Communication Special Media (brochures) Public Relations Mass Media (paid print ads)	Special Media (brochure, direct mail) Mass Media (paid print ads, news mentions) Public Relations/ Community Outreach Personal Sales- (liaison program)	Special Media (brochures) Personal Communication Public Relations Mass Media (paid print ads) Promotion/ Incentives (24-hour cardiac consult line)	Personal Communication Public Relations Special Media (brochures, direct mail) Mass Media (news mentions human interest stories)	Public Relations (press releases, coverage) Personal Communication Special Media Mass Media (paid TV, print, billboard ads for Health System)	Special Media (brochures, articles) Personal Communication Public Relations/ Community Outreach	Public Relations Mass Media (paid radio, TV, print ads) Special Media (brochures, videos) Personal Communication

Exhibit IV-1 (continued)

Marketing Program Characteristic	Demonstration Hospitals						
	SJMH	OSUH	BUMCH	SJHA	SVMCH	SLEH	MHI
Target Audiences	Physicians in region Third party payers/ self insured businesses Health care Institutions General Public	Physicians in region General public Patients Hospital Staff	General Public Physicians (with emphasis on Southeastern Massachusetts) Third party payers/ self insured businesses	Third party payers/self insured businesses Other health care institutions & physician groups Physicians in Southeastern U.S. Hospital's staff, patients General public	Hospital staff/ physicians Referring Physicians/ Hospitals General Public Medicare Beneficiaries	Referring Physicians Third party payers (managed care providers) Patients/Families General Public Hospital Staff	General Public Physicians Third party payers/ Self-insured businesses
Desired Response	Increase Name Recognition -- Hospital Increase public image (high quality, low cost provider) Increase number of fixed price, bundled payment contracts (all services) Increase referrals across all services	Increase Name Recognition -- Hospital Increase Public Image (hospital working for citizens -- to decrease cost while continuing to provide state of art care) Increase volume of CABG surgery	Increase Public/ Physician recognition and knowledge of BUMCH, its heart program, and CABG demo Increase Name Recognition Hospital (new name) Increase number of fixed price, bundles payment contracts (all services) Increase volume CABG surgeries	Increase number of managed care, bundled payment contracts (all services) Increase Name Recognition -- Hospital Increase credibility in community (Market leader low cost, high quality care) Increase volume of CABG surgery	Increase public image (Health System, Heart Institute, Hospital) Increase name recognition (Health System, Heart Institute, Hospital)	Increase public image Increase number of managed care contracts	Increase Name Recognition -- Hospital Increase patient volume Increase referrals

Note: Items are listed in order of emphasis

Exhibit IV-2

Composition and Focus of Promotional Programs Mounted by the Demonstration Hospitals

Demonstration Site	Personal Communications	Mass Media	Special Media	Public Relations/ Community Outreach	Groups Seeking to Influence			
					Public	Patients	Physicians	Payers
Saint Joseph's Mercy Hospital	✓✓	✓	✓✓	✓✓	✓	✓	✓✓	✓✓
Ohio State University Hospital	✓	✓✓	✓✓	✓	✓✓	✓	✓✓	✓
Boston University Medical Center Hospital	✓	✓✓	✓✓	✓	✓✓	✓	✓✓	✓✓
Saint Joseph's Hospital of Atlanta	✓✓	✓	✓✓	✓✓	✓	✓	✓✓	✓✓
St. Vincent Hospital and Medical Center	✓✓	✓	✓✓	✓	✓✓	✓	✓✓	✓
St. Luke's/ Texas Heart	✓✓	✓	✓✓	✓✓	✓	✓	✓✓	✓✓
Methodist Hospital of Indiana	✓	✓✓	✓✓	✓✓	✓✓	✓	✓✓	✓

Note: ✓ indicates some activity, but not a major focus
✓✓ indicates an area of emphasis.
✓✓✓ indicates an area of major emphasis

bypass surgeries performed within the market has increased each year since the start of the demonstration,[7] and so has SJMH's share of that market.

Historically, SJMH has relied on its reputation and the reputation of its physicians to promote the hospital and its services. Efforts have emphasized personal communications, special media, and public relations rather than mass media (e.g., paid advertising). The hospital believes that paid advertising is costly to undertake and ultimately of little benefit. In the Ann Arbor market, paid promotional campaigns have been viewed unfavorably by the general public.

Promotional activities undertaken for the demonstration occur within the context of similar efforts for the Heart Institute. Recently, Saint Joseph's has begun to develop a more comprehensive, integrated approach to marketing. During the past year, The Heart Institute and SJMH worked collaboratively to develop marketing strategies. However, specific activities to promote the demonstration remain limited.

SJMH's marketing strategies continue to focus heavily on increasing the hospital's visibility on a regional and national level and on expanding the hospital's base of referring physicians. In doing so, SJMH hopes to secure increased patient volume, including cardiovascular surgery volume among Medicare and non-Medicare patients. Promotional efforts are focused primarily on physicians and payers.

1. Product

Changes in various elements of patient care associated with bypass surgery or in the organization and structure of care delivery at a hospital in general may influence consumers attitudes toward a hospital and the care it provides. Over the course of the demonstration, the features and services offered by SJMH in conjunction with CABG surgery have undergone dramatic changes in an effort to contain costs and respond to advances in clinical research and technology. Changes have occurred with respect to: the timing of extubation, the products and solutions used during surgery, the drugs listed on the hospital's standard formulary, the timing of

[7] Hospitals in the market performed 2,774 Medicare CABG surgeries in 1990, 2,829 in 1991, 2,948 in 1992 and 2,933 in 1993.

ambulation, and the number and types of laboratory tests performed. In addition, SJMH has decreased its use of consulting physicians. The decision to use consultants is now based on specific clinical parameters rather than traditional practice patterns. Many of these changes in patient care patterns may be less apparent or influential to patients than others, however.

According to hospital representatives, changes in SJMH patient care elements have decreased the average length of stay and reduced the cost per hospital stay by $1,000. Not all of these savings are due to changes made since the start of the demonstration, however. SJMH was actively exploring opportunities for altering the content and duration of care before the demonstration started, such as the use of same day admissions for bypass surgery.

Other changes may have a more direct impact on patient perceptions of and satisfaction with SJMH. For example, SJMH has substituted pre-discharge education videos for one-on-one instruction or classroom style presentations regarding post-discharge care. Since patients are being released earlier and with more home care needs, pre-discharge education regarding direct physical care, medication, and diet has increased in importance. Given these needs and associated anxiety, SJMH's reliance on videos to impart knowledge may mean that patients no longer feel they are receiving adequate personal attention from hospital staff. Patients may have less opportunity to ask questions about their post-discharge plan of care and to become comfortable with the self care skills necessary to implement this care. SJMH's recent loss of affiliation with the nearby academic medical center may also detract from SJMH's image as a technically sophisticated provider of state-of-the-art care, although hospital representatives believe patients prefer SJMH's small size and community atmosphere over the large, impersonal academic medical center.

2. Price

All patients, regardless of where they seek care, will face some out-of-pocket expenses for hospital and physician costs that are directly associated with bypass surgery. These include costs associated with lodging, transportation, parking, inconvenience, as well as stress and anxiety. The total price to patients for having CABG surgery at SJMH will vary depending on

how far the patient has to travel for care and the cost of accommodations. In some cases, these costs may be a disincentive to seek care at SJMH.

To alleviate potential cost concerns, SJMH offers special services to demonstration patients and their families in addition to standard hospital amenities. Demonstration patients may make phone calls and watch television free of charge. Medicare bypass patients and their families also receive coupons for discounted meals in the hospital cafeteria and discounted lodging at the McAuley Inn. The Inn costs $47 per night and is within walking distance of the hospital. Other amenities available to all hospital patients include free parking, an automated teller machine, and pre-discharge planning and education.

3. Facility

SJMH is located on a relatively safe, sprawling campus that is close to two urban centers, Ypsilanti and Ann Arbor. The hospital is easy to locate and use, and parking is readily available. Physicians offices for pre and post-operative care are conveniently located adjacent to the hospital. To the extent that hospital size, ease of use, and overall character matter to patients, SJMH may have a distinct advantage over some of its near competitors. According to hospital representatives, SJMH has a reputation for excellent, personalized care. These representatives believe that patients prefer the private practice, more sensitive approach to medicine offered at SJMH to the "academic style," high-tech approach of the neighboring academic medical center in Ann Arbor.

A mixture of both old and new "low-rise" buildings comprise the hospital complex. One of the buildings is six stories high, while the remaining buildings are generally two to three stories. The oldest building was built during the 1970s. In March of 1993, SJMH opened a new Heart Institute facility. The Heart Institute is an outpatient care center that includes physician offices for cardiology, thoracic, and vascular care. All non-invasive cardiac testing occurs at this facility, as well as outpatient cardiac catheterization and recovery, cardiac rehabilitation, and some clinical research. The Heart Institute also houses an education center. In January 1994, SJMH opened a new Chest Pain Emergency Room, creating a new channel by which patients may access cardiac care.

4. Referral Network

SJMH has increased its efforts to expand its referral base over the past year. Focus group studies conducted during the first year of the demonstration by SJMH identified insurance and physician referral patterns as key challenges to ensuring that a steady flow of patients use the hospital and its services in future years.

The hospital views alliances with physicians affiliated with the hospital and with physicians in the community as imperative to the future of SJMH. Closer ties and collaborative relationships with physicians affiliated with the hospital are needed in order for the hospital to develop competitive managed care products. The role of physicians in these contractual arrangements is expected to be similar but not necessarily identical to the Medicare bypass project. Closer ties with community-based providers are also needed if the hospital is to be able to offer a comprehensive, state-wide network to a large, self-insured employers, such as Ford Motor Company or other automotive companies located nearby. Hospital leaders hope to develop a solid base of doctors and hospitals across the state that will support this strategic objective through outreach efforts and formal contractual arrangements.

a) Individual Physicians

SJMH has used physician to physician contact and educational opportunities to strengthen existing and develop new referral relationships with individual physicians. These efforts have been targeted primarily at physicians in Monroe and the Huron Valley. Efforts in Monroe target cardiac physicians and physicians in other specialties. Efforts in the Huron Valley are focused on cardiac physicians only.

Other SJMH outreach efforts to physicians have included:

- SJMH staff physicians practicing part-time at 12 Cardiology satellite clinics at hospitals participating in a Cardiac Emergency Network, a hospital network that promotes the hospitals in their local markets. These satellite clinics are located in 11 outlying communities (Ongoing);
- Acquisition of physician practices in the Ann Arbor market (Ongoing); and
- Professional education programs for referring physicians on various cardiology and practice management topics. Program announcements are mailed to all practicing

physicians and osteopaths throughout the state using membership lists from the state medical society and osteopathic society. About 200 people usually attend the one-day seminars and 150 attend the two-day events.

b) Hospitals

SJMH is also developing relationships with other hospitals in the state as a means of broadening its referral base. SJMH has a joint operating agreement with Providence Hospital, a tertiary care facility and open heart surgery provider located in Southfield. SJMH is in the process of exploring a potential working relationship with Providence Hospital around cardiac services.

c) Managed Care Contracts

In addition to establishing physician networks to enhance referral of patients to SJMH, the hospital is also working to develop contractual arrangements that will actively channel patients to the hospital or greatly expand the number of physicians and patients (i.e., through a health plan) who might choose the hospital for care.

The growth of managed care in Michigan has been slow due in part to the "wait and see" approach of automakers. In addition, the United Auto Workers union has not actively pursued managed care. Hospital representatives believe, however, that the market is quickly moving toward more managed care contracting. A task force at Blue Cross/Blue Shield of Michigan is examining the use of global pricing arrangements for three of its product lines. In addition, the Greater Detroit Health Council is looking at managed care options and currently negotiating for a joint hospital/physician product for vascular surgery.

SJMH is actively pursuing other direct contract arrangements. The hospital is in the process of developing and expanding managed care products for cardiovascular services as well as oncology and orthopedics. SJMH has developed a proposal on specialty contracting for cardiovascular services that describes the composition, services of Michigan Heart and Vascular Institute, as well as its "track record as a center of excellence," including designation as a Medicare bypass center. The proposal is targeted at large self-insured employers and corporations.

In addition, SJMH has assembled a physician/hospital organization that bids on managed care contracts. The organization participates in all global pricing activities, the development of carve out products around centers of excellence, such as the Heart Institute, and other network development efforts.

The leadership of SJMH hoped that the enhanced image the demonstration would bring to the hospital and its heart institute would lead to more fixed-price, bundled payment arrangements. The Medicare bypass project was SJMH's first endeavor in the market for carve out services. For the past year and a half, SJMH has contracted with Consumers Power, a statewide utility company, for cardiovascular services including valves, angiography, and cardiac catheterization. Within the past year, SJMH has acquired a similar contract with First American Bank, based in Kalamazoo. As part of its network development and contracting efforts, SJMH is assessing the ability of the hospital and its affiliated physicians to assume risk. The hospital is considering the development of clinical protocols and best practice guides to facilitate risk management.

5. Promotion

SJMH's efforts to promote the Medicare Heart Bypass Program have been largely limited to messages embedded within broader efforts to market the programs and services of the Heart Institute. Through these programs and activities, SJMH has endeavored to increase the visibility of the Heart Institute, build awareness of the demonstration, increase referrals, and share the SJMH's experience as a provider of high quality cardiac services at a fixed price with other members of the health care industry. Promotional efforts used to achieve these objectives have emphasized personal communications, special media, and public relations rather than paid advertising.

a) Public Relations/Community Outreach

Historically, SJMH has done little public relations work directed to the general public. Most promotional efforts have been directed toward physicians. Traditionally, the hospital has not engaged in many community based activities. However, a number of activities have begun within the past year as a result of the opening of the new Heart Institute facility.

Initial public relations activities related to the demonstration focused on the hospital's designation as a Medicare project site and completion of its first project year. During the second year of the demonstration, public relations included local and national press coverage received following the Medicare Participating Heart Bypass Centers' joint release of their Interim Report to the Nation through a National Press Conference. In addition to the national media coverage the heart bypass demonstration received, SJMH was covered locally in the Ypsilanti Press, Ann Arbor News, and the Detroit Free Press. SJMH plans to convene another press conference to disseminate results of the third demonstration year.

The outreach efforts targeting patients and the general public initiated since the opening of the SJMH Heart Institute may serve to increase not only the visibility of the Heart Institute, but also that of the demonstration. These efforts have included:

- A grand opening event held for physicians and community members when the new Heart Institute facility opened; the University of Michigan football coach was the keynote speaker of the event, which was attended by approximately 500 people.
- Development of a patient education video with the University of Michigan football coach regarding what to do if you think you are having a heart attack. Upon request, a hospital representative presents the video to local community groups and answers related questions. Announcements of the video have been distributed to community groups in Ann Arbor, Brighton, and Plymouth.
- Focus group discussions with bypass patients from a number of local hospitals by an interdisciplinary committee of clinical staff, physicians, administration and marketing representatives (Year I).

A variety of outreach efforts began following the opening of the new Heart Institute. These include:

- Weekly patient education seminars at the Institute on cardiac risk factors.
- A prevention education program for members of the community that includes intensive classes on heart-healthy cooking, weight management, and smoking cessation.
- Periodic lectures to lay audiences regarding cardiovascular health, held in the Institute's new auditorium.
- A series of seven free classes taught by hospital physicians, nurses, pharmacists, and nutritionists once per week regarding stress management, cholesterol, anatomy and physiology, nutrition, and medications. The classes are advertised in the community bulletin board column of local newspapers. In addition, the hospital has distributed a "prescription pad" recommending patient attendance at one or more of the classes and

telling the patient how to obtain additional information to local physicians. Flyers announcing the classes are also posted around the hospital.

- Free community screenings, held in the Fall and Spring, for cardiac risk factors. Community members may have their cholesterol, blood pressure, body fat, and lungs tested at these screenings.

In addition, the hospital is planning to develop a brochure on the Heart Institute and its service lines to distribute through the offices of community based primary care physicians.

b) Personal Communications

Efforts to promote the demonstration and the hospital during Years I and II relied heavily on personal communications between physicians and their colleagues in the community as well as presentations by hospital staff to physicians, payers, and other health institutions. Personal communications efforts include staff physicians practicing part time in outlying communities and professional education programs described in the *Referral Network* discussion. These presentations focus primarily on the ability of the SJMH demonstration to decrease hospital costs while improving the quality of care and often highlighted the health care reform aspects of the project. Presentations have also highlighted the interim clinical, cost, and volume results of the demonstration. Other key issues discussed in the presentations are: the physician/hospital relationship inherent in the demonstration; unexpected staffing requirements; and the replicability of the bundled payment, fixed price approach to other payers and diagnostic categories.

c) Special Media

Efforts to promote the hospital or the demonstration to the general public through the use of special media have been limited. As with other promotional activities, the focus of special media efforts has been on physicians. A letter was sent to referring physicians when the hospital was first designated as a Medicare bypass center. Other activities include:

- Sending physicians materials they can use to educate their patients about cardiovascular diseases and the Heart Institute's services (Ongoing).
- Direct mailing to referring physicians to provide them with information about the demonstration (Year I).
- Forwarding copies of news articles and press releases about the project to referring physicians (Year I).

- Development of a display outlining the project for use with brochures at physician conferences and educational events (Year I).

d) Mass Media

Use of paid advertising in promotional efforts has remained limited. Since 1990, the McAuley Health System has placed paid informational advertisements in the local paper, The Ann Arbor Observer, on various health topics, such as women's health. The advertisements generally are one-quarter or one-eighth page and carry the system logo and message. Occasionally, the system will do hospital specific advertisements.

Additional media promotion occurred around the University of Michigan football coach's decision to have bypass surgery at SJMH. The hospital placed a full page advertisement in The Ann Arbor Observer when the coach had surgery at SJMH and became their spokesperson. SJMH also did a series of radio spots with the coach following surgery that focused on heart attack signs and symptoms. The hospital received some additional exposure from the media for this promotional campaign when the coach was interviewed, in conjunction with the opening of the Chest Pain Emergency Room, by local television and radio personalities regarding his decision to make the video and do the radio spots.

B. Ohio State University Hospital

The Ohio State University Hospital is a patient care, teaching, and research center associated with the Ohio State University College of Medicine. University hospital is part of a multi-hospital complex that serves as a referral center for the approximately five million residents of central and southern Ohio, as well as the residents of surrounding states. All of the hospitals in the system are located close-by each other in an urban setting, on the campus of Ohio State University, the largest public university in the state.

OSUH offers a full range of ambulatory and in-patient services to the residents of Columbus, Ohio and the contiguous counties. The hospital has five centers of emphasis, one of which is cardiovascular services. The other centers of emphasis are women's health, organ transplantation, neurosciences, and rehabilitation services. Several of these services are located in

their own facilities within the medical center complex. Cardiovascular services are located in the main hospital, a 983 bed facility that runs at about 55 percent of capacity.

OSUH is one of ten hospitals in the state with open heart surgery programs. Four other hospitals in the Columbus area have bypass surgery programs. OSUH has 13 percent of the overall market for bypass surgery and 14 percent of the market for all cardiovascular services (roughly equivalent to the 15 percent market share the hospital holds for general inpatient services).[8] In 1993, OSUH ranked sixth in the market for Medicare bypass surgeries,[9] however, with a market share of 5.4 percent. The second largest provider of Medicare bypass surgeries in the market (with a market share of 21.8 percent) is located in Columbus, just a few miles from OSUH. The hospital with the largest share of the Medicare bypass market (with a market share of 32.1 percent in 1993) is located in the northern part of the state, in Cleveland.

Over half of the services OSUH provided in 1993 were reimbursed by Medicare and Medicaid, up substantially from 1991 when Medicare and Medicaid accounted for only 41 percent of services. Most cardiovascular services are reimbursed by private insurance and managed care, however. Roughly 42 percent of the cardiovascular services provided at OSUH in 1993 were reimbursed under these mechanisms, up from 34 percent in 1991. Medicare and Medicaid account for 38 percent of services in 1993, down from 53 percent in 1991. Managed care has growing rapidly over the past several years, and 40 percent of market residents are now estimated to be enrolled in a managed care program. OSUH participates in 22 managed care programs operating within the state, 6 HMOs and 16 PPOs.

Historically, OSUH has relied on its reputation and that of its doctors, as well as its affiliation with the University to attract patients. As is true for many of the other demonstration sites, OSUH does not market the demonstration as a stand alone product. The hospital markets the demonstration within the context of the family of programs available through the hospital and the hospital's cardiovascular center of excellence. These efforts have been largely targeted to

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8 This is based on information supplied by Ohio State University Hospital.

9 Based on bypass surgeries performed on Medicare beneficiaries that fall within DRG 106, DRG 107, and DRG 108 (with a procedure code of 36.10 - 36.15 or 36.19).

physicians in the region, the general public, patients, and hospital staff and have sought to image the hospital as a caring, cost conscious provider of high quality, state-of-the art services. More recently, the hospital has begun to target managed care programs and business leaders with its messages.

OSUH's efforts to promote the demonstration have involved the use of special media, public relations, and paid advertising to inform various audiences about the existence of the demonstration, including its goals and objectives, and to notify them of the hospital's designation as a Medicare Participating Heart Bypass Center. Most of the materials that have been developed to promote OSUH and the demonstration have also endeavored to put a more "human face" on the hospital. OSUH is doing this to overcome the impersonal, high-tech image the general public holds of the hospital and its staff.

OSUH staff identified the fact the public considers OSUH to be a high-tech, low touch, highly impersonal provider through consumer attitude surveys of Columbus residents. Hospital representatives attribute these "negative" images to the fact OSUH is an acclaimed academic medical center and as such practices a different style of medicine than the community-based hospitals that are its near competitors. As a result, the public thinks of OSUH as a research and teaching institution and its competitors as high-touch, service oriented providers of routine medical services. OSUH routinely surveys patients following their discharge from the hospital regarding their satisfaction with the care they received. The results of these surveys suggest patients are generally satisfied with the care they received and that their image of the hospital is much more in keeping with how the general public views of community providers -- as providing highly personalized, caring service.

1. Product

OSUH is in the process of reviewing the content and duration of CABG surgery with and without a cardiac catheterization to determine whether there are opportunities for improving the manner and efficiency with which care is delivered. OSUH is the last of the demonstration hospitals to undergo this review. The hospital has put together four teams (made up of physicians, nurses, administrators, and others) and charged them with reconfiguring the way in

which bypass surgery is performed and patient care is managed for cases falling within DRG 106 and DRG 107.

The hospital hopes to remove around $8,000 in costs from each case and reduce length of stay through this review process. Changes being considered include greater use of multi-skilled workers to provide care on patient units, removing some layers of middle management, and reducing ancillary services. Changes in the products and solutions used during surgery, the drugs listed on the formulary for bypass patients, the timing of extubation, and the number of tests performed are also being considered. Hospital administrators believe that if they do little more than remove a portion of the redundancy and inefficiency built into their system because OSUH is a teaching hospital (e.g., the same procedure done by multiple students as part of the skill building and learning process; longer times required to perform a task by students who are still learning) they will realize substantial savings and improve the efficiency with which care is delivered.

These and other changes undertaken by the hospital may influence consumer and referring physician attitudes toward the hospital, especially if the changes are though to compromise quality. Most of the changes are likely to be transparent to patients, however, as patients typically have little real knowledge and few expectations regarding the content and duration of their care when the enter the hospital unless they or a loved one has been through the procedure before. Other changes may have a more direct impact on patient perceptions, such might happen if the hospital were to decide to dramatically alter their staff to patient ratios and, as a result, patients feel that staff are too busy to pay adequate attention to their needs. There is no evidence to suggest that this is or will be the case, but it bears watching.

2. Price

As is true for all the demonstration sites, the price Medicare beneficiaries pay for CABG surgery at OSUH is the same as the price they would for pay this surgery if they were to have it another institution. Because this core price is the same, what matters to patients then are any added costs they may face by choosing to have their surgery at OSUH rather than another

institution. These added expenses can include the cost of lodging, transportation, and parking, as well as any added stress or anxiety the experience might hold.

To alleviate potential cost concerns (due to both added out of pocket expenses and hassles known to increase the emotional costs associated with a hospital stay), OSUH offers a number of special services to patients and their families. These services include discounts on parking, free shuttle service to and from parking garages as well as nearby motels, discounted room rates for family and friends at the Ramada University Hotel, assistance with travel arrangements, and pre-registration so that patients coming to the hospital for surgery can go directly to their floors when they arrive rather than spending hours in administrative offices completing paperwork. OSUH does not, however, offer any special incentives or make any additional price concessions to Medicare beneficiaries as a way to "lower the price" of having bypass surgery at OSUH and make the OSUH bypass option more attractive to consumers than the bypass option offered by competitors.

3. Facility

OSUH is located on the campus of the Ohio State University. The hospital is one of four in-patient care facilities in the medical center complex. The complex also includes an out-patient facility, the medical school, and various research facilities. The buildings in the medical center complex are of varying ages and are a mix of high and lower rise structures. The cardiovascular program is located in a highrise building opened in the early 1980s. The building in periodically updated so that new technologies can be incorporated into patient care services. For example, the hospital is in the process of replacing its current surgical intensive care unit with a new 38 bed suite that will include the latest bedside automated computers for more efficient patient care.

OSUH is accessible by automobile and public transportation. There are numerous parking garages surrounding the hospital. The hospital also offers valet parking for patients, their families, and their friends. In addition, the hospital operates a shuttle service between the parking garages and the medical center buildings as well as between the medical center and the Ramada University Hotel. The hospital is nearby a stop on the city's public bus line.

Despite its urban location on a sprawling university campus, with multiple parking garages and access to public transportation, patients do not consider OSUH to be as easy to access as other hospitals in the area. Patients find the approach to the hospital to be confusing, poorly marked, and hard to navigate at peak use hours due to congestion. OSUH administration is working to overcome this problem by revamping the approach to the hospital and by reminding the public in its printed ads, brochures, and other materials that the hospital is close to the Ohio State University football stadium, a facility to which over 90,000 people travel for every home game. The hospital is also conducting monthly seminars on various health and wellness topics that are open to the community. The hospital is doing this in an effort to help the general population feel more comfortable with the hospital's location and facilities.

4. Referral Networks

Historically OSUH's reputation as a provider of state-of-the art specialty services have been the primary source of patient referrals. As technology has dispersed and other hospitals in the market have build programs comparable to specific OSUH services, such the hospital's heart program, hospital administration has realized the need to develop a new strategy for ensuring a steady flow of patients use the hospital each year. Establishing and maintaining ties to community-based physicians is a primary focus of these efforts. The rapid growth of managed care programs over the past two years has increased the amount of time hospital administrators and physicians spend exploring collaborative relationships that will allow the hospital to develop competitive managed care products.

a) Individual Physicians

OSUH relies on physician-to-physician contact to establish and maintain referral relationships with community-based physicians. This strategy is heavily dependent on the personalities involved and works better for some services than for others. The education programs available through the medical center are a key component of this effort. Many of the relationships start during residency and fellowship programs and continue when doctors complete their training and move out into the community and establish their practices. Education programs open to community provider, such as medical grand rounds and seminars, also provide

OSUH physicians with an opportunity to meet and build relationships with colleagues from the community.

The hospital has placed displays featuring the demonstration at two medical continuing education meetings. This is the only networking effort in which the hospital has engaged that directly addresses the demonstration; this occurred in the first year of the demonstration. As is true for most other demonstration sites, OSUH has not made a special effort to tailor its products and services to better meet the interests and needs of community-based physicians referring patients to the hospital for care under the demonstration.

Hospital administrators and physicians from several of the hospital's key services are also working on developing more formal relationships with community-based providers. For example, the cardiology service has established affiliation relationships with a number of practices within a 60 mile radius of the hospital and is considering basing a member of the medical staff at one of these centers rather than at the hospital. The hospital's administrators are working to develop a network of Family practice and primary care centers that will feed patients to the hospital's special services. Affiliation agreements have been forged with seven centers thus far; under these agreements, physicians who work at the affiliated centers have a formal tie with the hospital.

b) Hospitals

OSUH is attempting to expand its referral network by setting up a consortium of community hospitals across the state that are affiliated with the medical center. The consortium is designed to forge stronger relationships between the hospitals and the OSUH and provide better continuity of care for patients. When fully operational, the consortium will serve to improve the number and quality of services available at the affiliated hospitals and increase the referrals between the hospitals and OSUH for tertiary services. OSUH and the eight institutions involved in the consortium are still working to define the nature and scope of their relationship, however.

c) Managed Care Contracts

Ohio has traditionally been a large point of service market, but managed care has grown rapidly over the past two year. OSUH is working to develop contractual relationships with

managed care organizations operating in the state. The hospital currently has over 40 contracts with managed care organizations and 4 global package price contracts beyond the demonstration. Insurers in the Ohio market are also beginning to do more care out contracting for specialty services, and OSUH is working develop the relationships needed to be part of these efforts.

The OSUH administrative staff has found that having a contract with a managed care organization does not always lead to increased volume, especially when the network includes multiple hospitals. Most of the managed care plans do not actively channel patients and enrollees often choose to go elsewhere for care. OSUH is working on developing materials and strategies to promote the hospital and it doctors to enrollees of the various plans in the hopes of increasing consumer awareness of their programs and influencing consumer choice of provider when specialty services are needed.

OSUH is also trying to develop direct contractual relationships with local businesses for carve out specialty services. OSUH staff are talking to a number of local business leaders (particularly those members of the corporate community associated with a number of large, national corporations headquartered in Columbus) about helping them restructure their benefit packages and forging contracts with OSUH for disease management services. In addition, a number of the hospitals communications efforts involving community outreach efforts and special media are targeted to local business leaders and their employees.

5. Promotion

OSUH efforts to promote the demonstration have been largely limited to messages embedded in broader efforts to market the hospital and its programs. Positioning the hospital locally, regionally, and nationally as a cost conscious provider of high quality, state-of-the-art medical and surgical services continues to be the primary goal of the hospital's communications program. The hospital has endeavored to achieve this goal by using public relations and community outreach programs, special media, and paid advertising to inform community physicians, local business leaders, and the general public about the hospital and its programs.

One of the challenges the hospital has faced in crafting its messages is that while it once was able to distinguish itself based on the capabilities of its staff and the technologies that were

available throughout the medical center, most hospitals in the state now have access to a pool of highly trained, specialty physicians (many of whom trained at OSUH) and the latest technology. In addition, the University's administration is very concerned about the impact messages various operating units (such as the hospital or the medial center) develop for promotional purposes may have on the public's perception of the University itself and will occasionally censor these efforts.

a) Public Relations/Community Outreach

OSUH uses press mentions and public relations to build public awareness of the hospital and its programs. For the most part this effort is focused on the goal of reimaging the hospital in the minds of the general public as a consumer friendly institution. OSUH staff work to ensure articles about the hospital and its programs routinely appear in the newspapers and trade publications. Staff also endeavor to get hospital personnel invited to speak on local TV-talk shows whenever possible.

Following the National Press Conference, articles specific to the OSUH demonstration appeared in the Columbus Dispatch and the Cleveland Plain Dealer. OSUH also received national print, radio, and television coverage of its participation in the heart bypass demonstration as a result of this conference. In addition, the demonstration has been featured a number of times in University Physician, the OSUH Medical Staff newsletter that is distributed to all hospital physicians, and other medical center publications.

The hospital recently entered into an agreement with a local television station to develop a number of magazine format shows and media messages on various health topics. The television station will write (with the help of OSUH staff and physicians) and produce the programming and TV spots developed for each of the topics selected. Both organizations will sponsor events for the local community tied to the topics addressed by a particular program or series. For example, the station may choose to run a series of programs and public service announcements on cardiovascular fitness. During the period the station was airing this programming, both the station and OSUH would also sponsor a series of fun runs, health fairs (focusing on cardiovascular risk reduction), nutrition workshops, and other "heart healthy" events for local residents.

The hospital has also started offering hospital tours and monthly educational seminars for the general public on various health topics. Members of the hospital's staff conduct the tours and seminars. Staff consider both events to be important vehicles for increasing public exposure to the hospital and its facilities as well as building public appreciation for the hospital's distinguishing features. In addition, OSUH has developed a special series of tours and seminars for local business leaders as part of its ongoing efforts to build stronger ties to the business community. The hospital also operates a 24-hour nurse consult line for community residents. Callers can speak directly with a registered nurse at OSUH. The nurses answer the caller's health related questions or link callers with physicians who can treat the caller's illness or injury.

OSUH is in something of a come from behind position with all of these endeavors, however. One of the hospital's strongest local competitors, Riverside hospital, has operated a very active public relations and community outreach program for the past several years and, as a result, Riverside is well regarded by local residents. Riverside's community outreach and public relations programs are much more focused on "heart health" than are those of OSUH. In fact, heart health projects are the cornerstone on which Riverside's outreach activities are based. The hospital hosts a number of public service events each year that specifically focus on one or more cardiovascular risk factors (e.g., chest pain education programs, cardiopulmonary resuscitation training programs, and "heart" fairs). In addition, the hospital's slogan, "Take Health to Heart," is prominently displayed at all of the hospital's community partnership programs, no matter what their focus.

b) Personal Communications

Neither OSUH administrators or physicians have undertaken any major effort to promote the demonstration through presentations and other personal communications with community providers or Medicare beneficiaries. During the first year of the demonstration, OSUH did develop and place a display describing the demonstration at two medical continuing education meetings; a representative of the hospital was also available at these meetings to answer questions regarding the program. Members of the hospital's administrative staff involved with the demonstration also speak to various groups and organizations upon request about the demonstration.

c) Special Media

Efforts to promote OSUH prominently feature the use of special media. The hospital has developed a brochures profiling the hospital and its programs. These materials all mention OSUH's participation in the demonstration. Promotional activities involving the use of special media that more directly focus on the demonstration have targeted various audiences and include the following:

- Completion of a direct mail campaign to 5,000 physicians in Ohio and West Virginia describing the demonstration. The mailing included a letter from demonstration administrators and a fact sheet on the program that physicians could give to their patients.
- Development of a package of materials on the demonstration, including press releases and print articles, for distribution to Medicare beneficiaries participating in the program.
- Development of a brochure describing OSUH and the key services offered under the demonstration for distribution to patients and consumers.

d) Mass Media

OSUH uses paid advertising in mass media outlets to image the entire hospital or one of its centers of emphasis. Hospital administrators do not consider an advertising campaign that is narrowly focused on a specific service, such cardiovascular services, to be a good use of money, let alone on a sub-element of that service, such as the hospital's Medicare Participating Heart Bypass Center program. The hospital ran its first advertising campaign four years ago in response to the advertising campaigns mounted by local competitors. Prior to that time the hospital's administrators and physicians saw no reason to advertise. The hospital's marketing budget rose dramatically between 1990 and 1991, but has been level funded since then. The hospital's advertising department consists of 3 graphic designers. OSUH also uses the services of an advertising agency; in addition, the hospital has access to the advertising, graphic design, and printing departments of the University.

OSUH has run one advertising campaign prominently featuring the demonstration. The campaign was targeted to consumers and consisted of three print advertisements concerning cardiac care at OSUH. The ads were placed, on a rotating basis, in local and regional publications. The campaign ran for ten weeks in the fall and ten weeks in the spring, typically on

Wednesdays and Sundays, when increased readership was anticipated. While all of the ads highlighted OSUH's experience as a leader in cardiac care and referenced the demonstration, each had a distinct focus. One ad emphasized the cardiac care services available in general at OSUH, while another focused on the Medicare Heart Bypass demonstration. The third stressed OSUH's experience with heart transplant surgery. OSUH marketing officials chose to advertise the demonstration through print media rather than radio or television due to the cost associated with the use of these various media and the perceived effectiveness of each. The hospital ran a series of general image ads on television at the same time the print ads were running as a way to reinforce the messages, however.

C. Boston University Medical Center Hospital

The Boston University Medical Center Hospital (BUMCH) is a 311 bed private teaching hospital and tertiary care medical center located in the heart of Boston, Massachusetts. As an integral part of an active, urban university, BUMCH shares a range of resources with the schools of medicine, nursing, public health, and dentistry. The institutions that comprise the medical center are known within the Boston community for their commitment to high quality health care, health professions education, and clinical research.[10] Formerly known as University Hospital, BUMCH changed its name and corporate logo in July of 1992 to reflect the formal linkages between the hospital, the university, and the school of medicine. Key service lines of the hospital include heart care, neuroscience, emergency medicine and critical care, elderly care, cancer care, and women's health care.

BUMCH serves primarily residents of Massachusetts, although some patients travel from Maine, New Hampshire, and New York. BUMCH competes with nine other hospitals in the Boston metropolitan area for CABG patients.[11] The total number of Medicare CABG surgeries

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10 BUMCH Hospital shares resources with Boston University School of Medicine, School of Public Health and Goldman School of Graduate Dentistry.

11 BUMCH's major competitors include Massachusetts General Hospital, New England Deaconess, Brigham and Women's, New England Medical Center, and Beth Israel.

performed by these hospitals has increased each year since the start of the demonstration.[12] However, the number of Medicare bypass surgeries performed by BUMCH has decreased during that period. In 1991, BUMCH accounted for nearly nine percent of the Medicare CABG market, the seventh highest market share amongst its competitors. In 1992, BUMCH's share of the Medicare CABG market dropped to nearly eight percent, where it remained in 1993. During this same period, three competing hospitals[13] substantially increased the number of Medicare CABG surgeries performed at their facilities each year as well as their share of the Medicare CABG market. Despite these shifts in volume and market share, BUMCH continued to have the seventh largest volume of Medicare CABG surgery.

Over the course of the demonstration, hospitals in the Boston metropolitan area have increased their use of paid radio, television, and print advertising to promote their services. However, most hospitals in the area continue to rely on product attributes and price to attract patients. The use of mass media campaigns may increase in the future, in response to recent efforts by hospitals from outside the state (primarily New Hampshire) to build name recognition in the Boston area through the use of paid advertisements.

In response to increasing competition for patients among area hospitals BUMCH has intensified efforts to expand the hospital's referral network.[14] For example, BUMCH is negotiating formal affiliation agreements with community hospitals in outlying areas. Under these agreements, the majority of patient care would be provided in the community; BUMCH would serve as the tertiary referral center for patients who need intensive intervention or highly technical care. As a result of a new central roadway that has altered access patterns to Boston, the hospital is focusing linkage efforts on hospitals, physician practices, and businesses located south of the city.

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12 Hospitals in the Boston market area performed 2,544 Medicare CABG surgeries in 1990; 2,707 in 1991; 2,828 in 1992; and 2,834 in 1993 (Source: Health Economics Research analyses of 1990, 1991, 1992, and 1993 MedPAR files). BUMCH entered the demonstration in May, 1991.

13 Massachusetts General, New England Deaconess, and Lahey Clinic

14 The Massachusetts General Hospital -Brigham and Women's merger gave a sense of immediacy to these plans.

BUMCH's marketing objectives and promotional activities have remained largely unchanged since the start of the demonstration. The hospital's objectives continue to be: increasing the hospital's name recognition among the general public[15], building awareness of the demonstration within the medical community and the general public (emphasizing the demonstration's ease of use); sharing the experience and expertise of the hospital's heart program with other health care providers and institutions in the area, as well as the general public; and increasing the volume of CABG surgeries performed at the hospital.

1. Product

Since the start of the demonstration, BUMCH has been working to standardize elements of patient care associated with Medicare bypass surgery and to differentiate such care from its near competitors in the minds of referring physicians and patients.

In response to an increasing managed care presence in the Boston metropolitan area and participation in the Medicare bypass demonstration, the hospital has reviewed and streamlined every element of care under DRGs 106 and 107 and established critical pathways for bypass surgery that follow a patient from pre-admission evaluation through post-discharge follow-up care. Changes in BUMCH patient care elements have effectively reduced the length of stay by 5.5 days (from 17 to 11.5 days) and decreased the charge for bypass surgery by as much as $7,000 per case. Changes in patient care include scheduling tests prior to surgery, reducing the number of laboratory and radiology tests conducted, modifying the timing of patient extubation following surgery, revising the protocol for operating room set-ups,[16] and improving the coordination of patient transitions throughout care.

BUMCH has made minor changes in the staffing and organization of services provided to bypass surgery patients that have decreased costs to the hospital. These include targeting medication to the individual patient, switching to lower cost equivalent products, delivering pre-

[15] This objective has increased in importance since the hospital changed its name.

[16] The hospital no longer maintains a fully prepared open operating room at all times. Instead, the hospital uses the next available operating room.

admission patient education by telephone or through video tapes, and modifying physician and nurse roles. Hospital administrators have found that using clinical nurse specialists to manage patients improves communication between physicians and their patients, and facilitates patient transitions between departments.

BUMCH offers its patients a comprehensive heart care program that includes preventive programs for treatment of hypertension, weight management, nutritional counseling, and on-site cardiac rehabilitation. Patients at BUMCH may access state-of-the-art techniques and diagnostic technology for cardiology and cardiothoracic surgery through the hospital's links with leading medical researchers at the Whitaker Cardiovascular Institute.[17] In addition, the hospital has developed patient education materials specifically for cardiac patients to address questions about nutrition, recovery from surgery, and post-discharge exercise or activity.

BUMCH plans to continue developing ways to improve the efficiency and quality of patient care. Future plans include increasing same day admissions, beginning with all patients in DRG 107.[18]

2. Price

Medicare bypass patients may face out-of-pocket costs associated with their surgery and hospital stay. These expenses may be related to transportation, parking, lodging for families, and personal inconvenience or stress.

To off-set some of these costs, BUMCH offers specialized services to all hospital patients and their families, regardless of demonstration status. In 1993, BUMCH negotiated reduced rates for patients and their families at *Midtown Hotel*, located approximately two miles away from the hospital. The hotel provides patients with complimentary shuttle transportation to and from the hospital throughout the day and evening, free parking, and free 24 hour laundry service. The hospital is currently considering offering valet parking to its patients.

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17 The Whitaker Cardiovascular Institute is a state-of-the-art clinical and scientific research center for heart and vascular disease, affiliated with Boston University School of Medicine.

18 If the hospital succeeds in admitting all DRG 107 patients on the day of surgery, it will have redirected 40 percent of all cardiac patients into the same day admissions process.

3. Facility

Boston University Medical Center Hospital is located in inner city Boston and is accessible by local expressways and public transportation. The majority of BUMCH patients are housed in The Atrium Pavilion. This building was completed in 1987 and was awarded top honors in an international architectural competition sponsored by the American Institute of Design and Modern Healthcare magazine.

BUMCH and Boston University are jointly developing a new medical office and research complex, "BioSquare," adjacent to the hospital which will replace existing obsolete facilities and enable the expansion of research activities. BioSquare will also have retail shops, parking facilities, and landscaped areas that are intended to make the area more inviting and attractive to hospital employees, local residents, and hospital visitors.

4. Referral Network

BUMCH has intensified efforts to develop and maintain its network of referring physicians in response to the recent Massachusetts General Hospital-Brigham Women's merger. BUMCH and its medical staff recognize the increasing need to develop closer ties and collaborative relationships with physicians in the community in order to successfully develop managed care products. To begin building new affiliations with physicians and hospitals in the Boston metropolitan area, BUMCH has designated a senior medical staff member as a liaison with executive and medical staff at potential collaborating institutions.

The increased need to contract with managed care entities, insurers, and corporations in order to secure patient volume has led Boston University Medical Center to explore options for setting up negotiated bundled payment arrangements, similar to the demonstration, with private payers.

a) Individual Physicians

BUMCH efforts to develop a physician network have focused on building closer relationships with individual primary care providers rather than purchasing entire practices. Currently, BUMCH has an underdeveloped infrastructure to support the development of formal

physician relationships. The hospital lacks a strong cardiologist network, in part due to historically strained relations with BUMCH-trained community-based cardiologists who choose to refer their patients to other institutions. In March 1993, the hospital opened the Commonwealth Medical Group, a satellite primary care and medical specialty practice in Brookline, which is expected to generate patient referrals for cardiac services. The hospital has begun developing referral relationships with SE Medical Associates (a cardiology group at Malden Hospital) and with a large New Hampshire cardiology practice.

In addition, BUMCH operates a telephone consultation line for community physicians to facilitate patient referrals to specialists. Hospital leaders hope to improve BUMCH's system of tracking and monitoring referrals made to the hospital through this service as well as other referral channels.

b) Hospitals

BUMCH is developing network relationships with community hospitals in the state. These relationships, primarily focused on referral linkages, would provide the framework for BUMCH's creation of a network of community based heart centers that could be marketed under the Boston University Medical Center Hospital banner to local employers and insurers. Under this scenario, BUMCH would serve as a tertiary referral center, with the majority of patient care occurring in the community in this network.

In the current Boston market, heart volume growth is driven by catheterization laboratory expansion at various community hospitals. As a result, BUMCH is attempting to form linkages with these providers for catheterization laboratory, angioplasty, and bypass surgery services. The hospital is currently negotiating with the Massachusetts-based Quorum Hospitals, Lahey Hospital, and three other community hospitals to form a 15-17 hospital network of community based heart centers. The hospital also plans to develop relationships with Charton Memorial Hospital (Fall River, MA), Carney Hospital, Quincy Hospital, and Winthrop Hospital. Efforts to help local hospitals obtain catheterization lab licenses have resulted in increased patient referrals from these institutions. For example, after working with Brockton Hospital's catheterization lab

last year, BUMCH experienced a 15 percent growth in angioplasty due to referrals from a Brockton-affiliated 25 physician multi-specialty group

c) Managed Care Contracts

BUMCH has actively pursued various managed care contracts, including direct contract arrangements with local health maintenance organizations and other packaged price contracts with self-insured employers. However, the hospital's lack of name recognition and relatively underdeveloped network of community hospitals and physicians have inhibited the success of these efforts. BUMCH actively pursued direct contracting for single bundled payment arrangements with several local HMOs such as Blue Cross Blue Shield, Blues HMO, Pilgrim, Bay State, and US HealthCare but many of these groups declined direct contracting in order to avoid potential harm to their existing relationships with other hospitals. Other groups have used BUMCH's proposal to leverage price concessions out of other institutions. In one case, after BUMCH proposed a single bundled payment contract arrangement to an HMO, the HMO took the package to other hospitals to negotiate a contract.

Hospital representatives believe that lack of brand name recognition contributed to the loss of a negotiated contract with Delta Airlines to Massachusetts General. In addition, while BUMCH has received numerous requests from large corporations to develop packaged price contracts (e.g., TWA, Gillette Raytheon, and Polaroid), employers are reluctant to contract due to the relatively small number of employees receiving bypass surgeries per year.

Despite limited success with securing managed care contracts, BUMCH continues to explore bundled payment arrangements for cardiac procedures. Currently the hospital holds an exclusive contract with US HealthCare. The hospital is also putting together bundled packages for 18 cardiology DRGs and setting a Trauma capitation rate. Medical staff and administrators are also interested in determining the feasibility of performing all cardiac procedures under capitated rates instead of on a DRG basis.

Hospital representatives believe that BUMCH's efforts to increase its involvement in managed care contracts must be coupled with further development of physician and hospital networks for them to be successful. Hospital representatives also believe bundled services using

a network of hospitals would equally benefit patients and providers. In addition, as employers move away from direct contracting because of the difficulty in efficiently carving out heart services, BUMCH may need to direct marketing efforts toward insurers and managed care entities.

5. Promotion

The promotional activities of BUMCH have focused on building awareness of the demonstration and the hospital in the general public, improving communications with its referring physicians, and advertising in the mass media to increase the hospital's name recognition and reputation among large insurers and corporations. From 1991 to 1993 the focus of these promotional efforts shifted from emphasizing the demonstration project to launching a corporate identification and awareness campaign.[19] In promoting the demonstration, the hospital emphasizes its provision of high quality care, state-of-the-art techniques, and comprehensive "total heart care" program. Promotional efforts for the hospital in general, focus on its distinguishing factors as an academic medical center, particularly its access to a range of university-linked health care services, medical staff, and resources.

To date, there has been no overall marketing strategy to guide BUMCH's promotional activities. In the future, the hospital hopes to develop a coordinated communications program targeting patients, payers, and physicians. Due to the recent staffing and structural changes in the marketing department at BUMCH, promotional activities are expected to continue to shift in the coming months.

a) Public Relations/Community Outreach

Most of BUMCH's public relations activities have focused on highlighting the hospital's selection as a Medicare CABG demonstration site. Over the past three years, BUMCH has periodically received significant media coverage in national and local publications. BUMCH's leaders quoted in these articles have emphasized high patient satisfaction, reduced paperwork,

[19] The new corporate identification campaign was initiated in July 1993.

and cost-savings as indicators of the project's success. National and local press relations efforts have included:

- Coverage in several national news publications and health-related journals including the New York Times, the Washington Post, and Modern Healthcare announcing BUMCH as one of four hospitals selected to participate in the demonstration (Year I, Year II);
- Coverage in several local Boston area newspapers and journals including The Times-Argus; Patriot Leader; Telegram & Gazette; Brockton Enterprise; South End News; The Plan Dealer Bureau; Taunton Daily Gazette; and the Boston Herald announcing BUMCH's selection as a demonstration site (Following the July 1993 National Press Conference); and
- Coverage in two major Boston area journals and newspapers: The Boston Business Journal and The Boston Globe, reporting high patient satisfaction, hospital cost savings, and reduced administrative hassles associated with the demonstration.

Although BUMCH has conducted limited community outreach, the hospital plans to reconsider a "grassroots" strategy, particularly a program targeted at the inner city community. In 1994, BUMCH worked with local television stations on community service programming to produce two video segments on heart disease. Both shows aired on the local health television program "Health Matters" and flashed the toll-free telephone number for BUMCH's general patient cancer information line.

b) Personal Communications

BUMCH's efforts to promote the demonstration were part of broader efforts to increase the hospital's visibility among potential affiliating physicians/hospitals, insurers/employers, and the community. Due to the hospital's need to develop a network of referring physicians, the hospital placed particular emphasis on improving its personal communications with physicians and third-party payers. The hospital has directed little personal communications towards the general public but plans to conduct community heart health programs with local restaurants to promote the uniqueness of BUMCH's cardiovascular program. Through its personal communications efforts, BUMCH encourages physician dialogue with key influential community members and potential referring physicians

Personal communications efforts over the course of the demonstration have included presentations by hospital staff at health industry trade shows[20] and at professional meetings/conferences. As a direct result of the demonstration, the hospital developed a series of weekly "economic rounds" for physicians during the past year to discuss issues of cost and quality of each element of bypass care.

c) Special Media

Due to historical difficulty obtaining referrals from community physicians, the hospital has made a concerted effort to routinely communicate with referring physicians in the community through newsletters, BUMCH publications, and personalized letters accompanying mass mailings. Patient education materials, such as a Patient Education Folder, and a heart-conscious cook book developed specifically for cardiac patients, have been well-received. Efforts to promote the hospital through special media to hospital staff, physicians and patients have included:

Hospital Staff/Referring Physicians

- Placing announcements of the demonstration project and project updates in several internal BUMCH publications (Year I);
- Distributing a cardiovascular care-specific newsletter to all physicians who refer patients to BUMCH for cardiac procedures (Expected to be reintroduced in 1994);
- Mailing a letter announcing the hospital's participation in the demonstration project to Medical Staff and referring physicians (Year I);
- Establishing and disseminating "BUMCH Commitment to Referring Physicians" Policy Statement (Year II);
- Distributing, with personalized cover letters , annual BUMCH publications, including the current listings of Hospital's Attending Staff (Clinical Services Directory) and Annual Reports to all referring physicians (Years I, II, III); and
- Producing abbreviated clinical guide for referring physicians, featuring the hospital's cardiac care program (Year II);

Patients

[20] For example, in September 1992, the Chief of Cardiothoracic Surgery presented at HealthMart concerning the CABG demonstration.

- Distributing Patient Education Materials prior to admission to all patients receiving cardiac care, which includes a cover letter detailing instructions for pre-admission, information on post-discharge recovery, nutrition tips, and suggestions for activity/exercise during the recovery period (Ongoing);
- Mailing magnets that advertise the hospital's two health information phone lines: Health Connection and Cancer HelpLink to 50,000 consumer households inside Route 128;
- Distributing HeartTrends newsletter to all patients who have undergone cardiac care in the past two years; (Expected to be reintroduced in 1994); and
- Distributing Award-winning Cooking a la Heart book to all CABG patients since the beginning of the demonstration. The book contains a bookplate indicating the patient has participated in the demonstration and provides the name of the Clinical Study nurse and information on how to contact her (Ongoing).

d) Mass Media

Traditionally, Boston hospitals, particularly the teaching hospitals, have not engaged in large-scale advertising and mass media promotional campaigns. However, due to changes in the marketing practices of other Boston area hospitals, BUMCH has intensified mass media efforts. BUMCH is in the process of developing a multimedia "image building" campaign for the entire hospital.

In the third year of the demonstration, BUMCH continued to increase recognition of its new corporate logo and name, and to stress the research, patient care, and education attributes of the hospital by:

- Placing paid advertisements twice a year in Boston focused publications, business journals, and health magazines (Ongoing);
- Placing an advertisement for Medicare Heart Bypass at BUMCH in the Yellow pages and White pages listing (Ongoing); and
- Rotating a series of radio messages on BUMCH, one of which publicizes BUMCH as a landmark Medicare heart bypass center, on National Public Radio at Boston University(1993-Ongoing).

D. Saint Joseph's Hospital of Atlanta

St. Joseph's Hospital of Atlanta is a 346-bed tertiary care facility and regional referral center for complex diagnostic, treatment, and rehabilitation services. Founded in 1880 by the Sisters of Mercy, St. Joseph's specializes in the provision of diagnostic and therapeutic services

for severely ill adults, particularly those with cardiovascular disease, cancer, and orthopedic needs.

Patients are drawn from a six state area that includes Georgia, Alabama, Mississippi, Florida, North Carolina, and South Carolina. Approximately 40 percent of SJHA patients come from outside Atlanta.

In 1988, St. Joseph's, along with 17 other North Georgia and North Carolina hospitals, formed the Heart Network of North Georgia. The network is designed to provide rapid crisis intervention at the local level through 24-hour direct linkage to cardiac specialists and advanced facilities at each of the 18 participating hospitals.

The Heart Institute of St. Joseph's Hospital has been a historical leader in cardiac services. The hospital currently performs among the highest volumes of open heart surgeries and cardiac catheterizations in the United States. St. Joseph's conducts the highest annual volume of bypass surgeries in the state of Georgia.

There are nine other hospitals in the state that have heart programs, five of which are located in the Atlanta metropolitan area.[21] Throughout the demonstration, St. Joseph's has had the highest share of the Medicare CABG market in the Atlanta metropolitan area.[22] In 1993, St. Joseph's had approximately 42 percent of the market for Medicare bypass surgery (up from 36.7 percent on 1990). The hospital's closest competitor had approximately 21 percent of the market for Medicare CABG surgery[23] in 1993 (down from 31 percent in 1990).

The presence of managed care in the Atlanta metropolitan area has increased significantly since the beginning of the demonstration. Although managed care contracting is in its early stages in the Atlanta health care market, HMO penetration is growing rapidly. From 1991 to 1993, HMO penetration of the local market doubled from 10 to 20 percent. Hospital

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21 There are 20 hospitals in the Atlanta metropolitan area with catheterization laboratories who do not have open heart programs; and five other hospitals in the area that have both a catheterization laboratory and an open heart surgery program. This last group includes Emory University, Crawford Long, Grady Memorial, Piedmont, Georgia Baptist hospitals.

22 Based on bypass surgeries performed on Medicare beneficiaries that fall within DRG 106, DRG 107, and DRG 108 (with procedure codes of 36.10-36.15 or 36.19.)

23 Data from HER analysis of 1993 MedPAR files

representatives believe that the demonstration and the increasing presence of managed care in the Atlanta metropolitan area, have led hospitals in the Atlanta market to become more cost-conscious. In an effort to become more competitive, hospitals in the area have attempted to reduce their fixed costs, developed physician-hospital organizations, and formed community hospital networks.

Throughout the demonstration, the primary objective of SJHA marketing activities has continued to be building awareness and increasing name recognition of the hospital and its Heart Institute. As part of the hospital's ongoing efforts to contain costs and secure managed care contracts, promotional efforts have been focused on insurers and payers. By targeting these groups, the hospital hopes to increase its access to patients through managed care contracts. Promotional efforts have also sought to influence referral decisions by targeting benefit managers and physicians.

St. Joseph's efforts to promote the demonstration have been embedded in broader efforts to image and strengthen the credibility of the hospital and the Heart Institute. The hospital has been reluctant to specifically promote the demonstration out of fear that such an approach would jeopardize existing referral relationships. Recent down-sizing of the hospital's marketing department has contributed to a decreased emphasis on promotional activities during the past year. The marketing department consists of six staff members, including a special events coordinator, a graphics designer, and a media relations person.

1. Product

Over the course of the demonstration, SJHA has altered the structure, content, and duration of patient care associated with CABG surgery in an effort to contain hospital costs while maintaining the quality of care.

Through reductions and reconfigurations in the staff, particularly among nurses, St. Joseph's hospital has changed the structure of patient care for bypass surgery. The hospital has

reduced the size of its overall full time equivalent staff by 10 to 15 percent.[24] Nursing positions were reconfigured to include new responsibilities. For example, nurse specialists have been given greater responsibilities in patient care management as St. Joseph's has endeavored to decrease its use of consulting physicians. Such changes in patient care management may influence patient attitudes toward the hospital and perceptions of the quality of care received. As part of its continuous quality improvement process, SJHA will elicit comments from patients regarding the hospital and care they received during their hospital stay.

In an effort to improve efficiency in the intensive care unit and therefore decrease the average length of stay for bypass surgery, the hospital has changed various elements of patient care, such as the timing of extubation. The hospital has also incorporated less expensive pharmaceuticals and improved operating room protocols into patient care.

As a result of these and other improvements in the management of patient care, the overall length of stay for all CABG patients has decreased by two days since the beginning of the demonstration. Hospital efforts to minimize the length of stay for cardiac patients have also included conducting laboratory and diagnostic tests and patient education prior to admission for surgery. In addition, SJHA is in the process of implementing a same day admissions program for bypass surgery. Approximately 80 percent of patients in DRG 107 are currently admitted to SJHA on the same day of surgery due to the fact they are transferred from another institution, such as a catheterization facility. The hospital is working to institute a same day admissions process for other bypass patients without compromising patient comfort or perceptions of quality. The hospital is working to ease the anxiety of patients who are admitted through this process by providing educational materials to patients prior to admission.

[24] Over the past year, the hospital has decreased the number of full time equivalent staff by 250. Most down-sizing of the hospital staff has occurred as a result of attrition.

2. Price

All patients, regardless of where they receive care, will incur out-of-pocket costs for hospital and physician services that are directly associated with bypass surgery. These include costs associated with transportation, lodging, parking, inconvenience, and anxiety.

To alleviate some of these costs, SJHA offers discounted accommodations to patients and their families. Discounted or free hotel accommodations are available for families traveling from distances of 50 miles or more to receive care at the hospital. Patients undergoing pre-admission testing may stay the night prior to surgery free of charge in one of two hotels located near SJHA. Family members of SJHA patients may stay at either of these hotels at a reduced rate of $49.00. St. Joseph's provides free, nearby lodging for families who cannot afford this option through its "Host Homes" program. The hospital also offers pre and post discharge support groups to all cardiovascular patients.

3. Facility

St. Joseph's Hospital of Atlanta is located on a large medical campus in the far Northeast corner of Atlanta. Two other hospitals are located across the street from St. Joseph's. St. Joseph's is just inside the beltway, where two major highways intersect. It is accessible by car, public bus, and, soon, by the public above ground train system. In 1995, a medical center stop will be added on the MARTA train line. Visitors' parking is available in a well-lit two story deck across from the hospital entrance; valet parking is also available.

Patient care is housed in three interconnecting mid-level buildings, the oldest of which was constructed in 1978. Inpatient care is housed in a seven story main medical center building. Outpatient services are located in an adjacent Outpatient Care Center and Physicians Office Building. The hospital will open a new cancer care facility in the spring of 1995.

4. Referral Network

To date, SJHA has not developed a well-defined strategy for expanding its base of referring physicians. The hospital has sought to create linkages between individual physicians,

particularly those in rural areas, and to increase access to patients through managed care contracts.

a) Individual Physicians

Hospital surgeons and cardiologists currently market the hospital and its programs to current and potential referring physicians independently of one another. There has been little movement by SJHA toward a more coordinated approach. However, the hospital has recently begun to monitor the number, type, and source of patient referrals.

Future efforts to increase St. Joseph's base of physicians will focus on improving communication and referral linkages between community and hospital physicians. SJHA plans to explore purchasing physician practices to link community providers together in a network that would direct patients to the hospital. Historically, many rural doctors have been frustrated by poor communication with tertiary care facilities regarding a referred patient's care. To facilitate communication between physicians in outlying areas and hospital staff regarding the care of a patient, St. Joseph's is considering the creation of a telephone consultation line and the development of telephone linkages with the hospital's computer system that would allow physicians to access patient medical records from their own offices in the community. Physicians at SJHA may also conduct weekly clinics in outlying communities in order to develop referral relationships with physicians. These clinics are likely to be conducted by younger physicians, who are in the process of building their practices. In addition, the hospital is considering establishing an "associate" program for community physicians to admit patients through a specialist who has full privileges at the hospital and to visit their patients at SJHA.

b) Hospitals

The introduction of managed care and discounted pricing to the Atlanta metropolitan area has encouraged the formation of hospital networks. Currently, SJHA is part of a network of 18 small community hospitals in Georgia and North Carolina known as the Heart Network Hospitals. St. Joseph's receives tertiary referrals from these network hospitals for cardiac services. In exchange, SJHA provides the network hospitals with low-cost supplies and advanced specialty training for their medical staff. SJHA doctors also visit the hospitals in the network

periodically to conduct consultation clinics. SJHA plans to include these hospitals in future managed care contract arrangements.

c) Managed Care Contracts

Over the course of the demonstration, St. Joseph's has endeavored to increase its involvement in managed care by actively pursuing additional managed care contracts. SJHA has formed ComplexCare, a physician-hospital organization to negotiate capitated, packaged price contracts with insurers and businesses. Through this entity, the hospital has established global, package price contracts with CIGNA, Prudential, Aetna, and Kaiser. During the second year of the demonstration, SJHA negotiated a contract for a fixed-price, bundled payment arrangement with Delta Airlines for several cardiovascular services, including CABG surgery.

Officials at SJHA expect their participation in the heart bypass demonstration experience will attract more fixed-price, bundled payment arrangements with large, self-insured businesses and third party payers. During the second year of the demonstration, SJHA developed a brochure that highlights the demonstration project and promotes the hospital as an "innovative" and "ideal partner in managed care" for cardiac, oncology, and orthopedic care services for use with these and other target audiences. Hospital representatives believe that SJHA's nationally-recognized status as a Medicare Participating Heart Bypass Project gave it a strong competitive advantage over Emory University for the package price contract with Delta Airlines for cardiovascular services

The hospital is also exploring the development a multi-specialty network of providers that would allow it to contract for a larger number of disease conditions within a single contract rather than multiple contracts focused on individual diseases. The hospital also hopes to develop package price contracts for other services such as treatment for HIV/AIDS and orthopedic care.

5. Promotion

Efforts to promote the Medicare Heart Bypass Program have taken place largely within the context of broader efforts to market the programs and services of SJHA and its Heart Institute. Due to recent down-sizing of the marketing department, the level of promotional

activity has declined slightly over the past year. The hospital has been reluctant to conduct demonstration-specific promotional efforts due to concerns regarding adverse impacts on its referral network.

Drawing upon its designation and experience as a Medicare Participating Heart Bypass Center, SJHA has sought to image the Heart Institute, and the hospital, as an innovative leader in the provision of cost-effective, high-quality health care. The primary objective of SJHA promotional activities during the third year of the demonstration has continued to be building awareness of the hospital and increasing its visibility, strengthening both the name recognition and the credibility of the Heart Institute. Minimal emphasis has been placed on explicitly increasing Medicare and non-Medicare patient volume, although it has been recognized as an underlying marketing goal and may be considered a measure of success in achieving objectives.

Throughout the demonstration, SJHA has promoted the hospital and the Heart Institute using personal communications, public relations, and special media channels.

a) Public Relations/Community Outreach

SJHA public relations and community outreach efforts have focused on creating a positive image of the hospital and the Heart Institute in the community. These efforts have sought to build name recognition around the SJHA, its Heart Institute, and to a limited degree, the Heart Network of North Georgia.

Public relations activities have included distributing press releases and writing articles on the HCFA project for local and regional media. Articles produced at the beginning of the demonstration focused on dispelling the notion that hospitals were selected based solely on the cost-dimension. St. Joseph's efforts to market the demonstration through the media during the second year of the demonstration were primarily focused on the national media and conducted in collaboration with the other hospitals participating in the demonstration.

As a result of the National Press Conference held by the participating hospitals, SJHA received both national and local coverage of the demonstration in the television, radio, and print media. Locally, coverage was received in several radio and television news broadcasts, and an

article appeared in the Atlanta Journal Constitution. Other national and local media coverage of the SJHA demonstration project was generated by the Delta Airlines contract award, announced in the New York Times and discussed in Strategic Health Care Marketing. SJHA's media relations efforts during Year II also included the generation of press releases whenever newsworthy events occurred and the publication of articles in the hospital's medical publications at periodic intervals. SJHA also continued to send press releases to patient's local newspapers announcing their involvement in the demonstration. In addition, the hospital receives television, radio, and newspaper coverage around newsworthy events, such as when the head of the local Olympic committee received care at SJHA.

Community outreach efforts have included various one day education programs or special events, such as Women's Health Day or a speech on breast cancer delivered by journalist and cancer survivor Linda Elerby. Efforts have also included on-going outreach activities such as a mobile van that delivers health care to the community and a cancer education newsletter that is distributed by the hospital.

The hospital is considering "grass-roots" outreach efforts to attract patients from rural areas. For example, SJHA is exploring placement of hospital community service representatives in outlying areas to educate residents about SJHA and to assist patients and their families in accessing the hospital. Such assistance may involve transporting a patient to the hospital or obtaining travel vouchers for discounted hotel accommodations for family members of patients.

In addition, as a participant in the National Heart Attack Risk study, St. Joseph's is working to reduce modifiable risk factors in the community by increasing community awareness of heart programs and promoting cholesterol screenings. As a result of these efforts, the hospital has conducted cholesterol screenings on over 15,000 people in Atlanta alone. SJHA is also helping other hospitals in the Heart Network to develop their own community outreach strategies and to promote the Heart Network as a single entity.

b) Personal Communications

SJHA personal communications efforts have emphasized improving the hospital's relationships with referring physicians by building a positive image of the hospital among

community physicians and physician groups. Personal communications between SJHA medical staff and referring physicians have focused on educating physicians about the St. Joseph's Heart Institute and the demonstration. These activities support the hospital's goals of improving communication between the hospital and referring physicians and keeping participating doctors informed about the Medicare Heart Bypass Project.

Speaking engagements by key administrators involved in the demonstration occurred early in the demonstration within the hospital to educate hospital staff, patients, and physicians about the demonstration program. During the second year of the demonstration, these administrators spoke about the demonstration at both local and national engagements to audiences that included physician groups, members of the health care industry and other health institutions. These presentations, frequently at the request of outside groups and organizations interested in the health care reform aspects of the project or the open medical staff configuration of SJHA have continued in the third demonstration year. The goal of these engagements has been threefold: to build awareness of the demonstration project, to describe the challenges and complexities involved in SJHA's participation in the project, and to share SJHA's expertise and experience in implementing a fixed-price, bundled-payment arrangement.

Other personal communications efforts conducted throughout the demonstration have included:

- Conducting informational meetings with participating physician's office managers to clarify billing issues and discuss policies and special services for patients and families.
- Conducting informational meetings and cardiovascular research forums with hospital and referring physicians (Year I).
- Conducting presentations about the program to SJHA medical staff and the staff at referring hospitals and Heart Network Hospitals (Ongoing).
- Convening quarterly update meetings with SJHA physicians participating in the demonstration (Ongoing).
- Routine visits to SJHA physicians participating in the demonstration by the Director of Physician Relations (Ongoing).
- Delivering presentations at local and state physician association meetings (Ongoing).

c) Special Media

SJHA has also sought to build awareness of the Medicare Heart Bypass project and the hospital through communication with hospital staff, referring physicians, and Medicare beneficiaries using special media such as brochures and newsletters.

A direct mail campaign targeted at cardiologists and internists in the Southeastern United States was launched in January 1993. This mailing was sent to approximately 3,000 physicians in the surrounding area and consisted of a referring physician brochure, several copies of a brochure describing the project to patients, and a letter from the Director of the Heart Institute. The referring physician brochure outlined the benefits of participating in the demonstration for physicians and patients. The brochure included a slip sheet for patients that cited the demonstration and its benefits as one of "a lot of good reasons," why their physician would refer them to SJHA for bypass surgery. This sheet also contained information on SJHA's hotel discount programs for patients and their families. The brochure listed a toll free number that patients and physicians could call to obtain more information about the demonstration.

During the second and third years of the demonstration, SJHA has continued to distribute a fact sheet about the demonstration to Medicare cardiac patients in conjunction with the general admitting and hospital stay information patients received as they were admitted to the hospital. This material was personally presented by the case manager for the demonstration project.

Other special media efforts conducted by SJHA have included:

Hospital Staff/Referring Physicians

- Developing informational demonstration-specific packets for referring physicians' offices and SJHA non-participating physicians (Year I).
- Announcing the demonstration program through existing SJHA physician publications (Year II).
- Mailing HCFA project materials to cardiologists and cardiovascular surgeons prior to general release (Ongoing).
- Placing physician-authored articles on the demonstration in medical bulletins (Ongoing).
- Promoting the demonstration in internal SJHA publications (Ongoing).

Medicare Beneficiaries/General Public

- Administering patient satisfaction surveys to determine satisfaction levels (Year I).
- Developing post-charge clinical evaluations to be distributed three to fours weeks after discharge (Year I).
- Placing articles on the demonstration in SJHA community publications (Ongoing).
- Developing fact sheets on the Cardiac Registry and patient communications during the three year study (Ongoing).

d) Mass Media

Although some of its competitors use paid advertisements to market their services, SJHA use of mass media to promote its services has been limited. Some paid print advertising has been conducted to emphasize a particular service line or to announce a new program, such as the demonstration. In 1991, the hospital placed an "advertorial" in a local magazine on the hospital and its key service lines. When the demonstration was first announced, SJHA placed paid print advertisement in a regional edition of Newsweek announcing its designation as a Medicare Participating Heart Bypass Center and listing a toll free telephone number for people to call to obtain additional information on the demonstration or the hospital. SJHA also produced a series of radio advertisements recorded by local talents to announce its demonstration designation.

E. St. Vincent Hospital and Medical Center

St. Vincent Hospital and Medical Center is a 451 bed Catholic hospital owned and operated by the Sisters of Providence Health System, one of the largest health care systems in the Western United States. In January 1994, the Portland health plans and the three Portland hospitals owned by the Sisters of Providence merged into one corporate entity, The Providence Health System. St. Vincent is one of two Portland hospitals in this health system that has an open heart surgery program. Bypass surgery volume at St. Vincent is more than double the volume of this other hospital, however. To date, there has been no discussion of consolidating the efforts of these two organizations.

The St. Vincent Heart Institute is one of the largest open heart programs on the West Coast and the only heart bypass demonstration site in the Western United States. St. Vincent offers a broad range of services to the residents of Portland. Services are organized into nine

major service lines: The Heart Institute, Cancer Care, Mental Health, Medicine/Prevention/ Primary Care, Surgery, Neuro-Musculo-Skeletal Services, Women's and Children's Health, Chronic Care, and Occupational Health Services. The Heart Institute is the largest of these service lines, in terms of patient days. Women's and Children's Health has the largest number of cases.

There are 16 other hospitals in the Portland metropolitan area in addition to St. Vincent. Five of these hospitals, including the Veteran's Hospital, perform bypass surgery. In 1992, St. Vincent had approximately 43 percent of the market for all bypass surgery, 49 percent of the market for Medicare bypass surgery, and 47 percent of the market for non-Medicare bypass surgery. In 1993, the market share for Medicare bypass surgery increased slightly, to approximately 51 percent.[25] St. Vincent has remained the market leader for Medicare bypass surgery since 1991, in a market of declining Medicare bypass volume.[26]

St. Vincent had a higher share of the cardiovascular services market (18 percent) in 1992 than the general inpatient market (13 percent). From 1992 to 1993, St. Vincent's market share for inpatient services remained virtually unchanged (13.4% vs. 13.2%). Although cardiovascular services market share data for 1993 are not yet available, hospital representatives foresee little change from 1992.

The presence of managed care in the Portland metropolitan area has increased since the beginning of the demonstration. Nearly 80 percent of the residents of this area are now in managed care; approximately 40 percent are insured by an HMO and 39 percent are insured by a PPO, an increase of 6 percent and 8 percent, respectively, since 1992.

In 1993, 40 percent of all hospital services were paid for by managed care, an increase of approximately 9 percent from 1992. Medicare continues to account for about one-third (32 percent) of the payments received for all hospital services. Payments for the remaining services

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[25] These rankings are based on information provided by the hospital; 1993 non-Medicare bypass surgery market share data were not available. 1993 Medicare bypass surgery data are based on analyses conducted by Health Economics Research as part of their evaluation of national and market area trends in heart bypass surgery.

[26] The number of Medicare bypass surgeries performed in the market (based on DRG 106, DRG 107, and some cases within DRG 108) increased between 1990 and 1992 but fell by close to 17 percent between 1992 and 1993.

are split between Medicaid (2 percent) and other non-managed care insurers (27 percent). A greater percentage (approximately 55 percent) of open heart surgery is paid for by managed care, an increase of about 5 percent since 1992. During that same time period, the proportion paid for by Medicare declined by 4 percent, to approximately 30 percent.

The strong presence of managed care in the Portland area and St. Vincent's relationship with the Providence Health System has resulted in the reorganization of marketing efforts. Marketing activities are now planned and implemented regionally by the health plan rather than by the individual member hospitals such as St. Vincent. Corporate funding for separate marketing activities at St. Vincent or its Heart Institute is limited. The marketing departments at individual hospitals have been downsized to one or two public relations professionals who are primarily responsible for responding to press inquiries and generating press releases. At the beginning of the demonstration, St. Vincent's marketing department consisted of approximately 12 full time equivalent staff responsible for planning, market research, public relations, and communications.

Changes in the planning and staffing of St. Vincent marketing efforts have also been accompanied by shifts in the hospital's marketing objectives and strategies. These changes have been driven by the dramatic consolidation of health providers now taking place in the state. The vast majority of hospitals and health plans in Oregon now belong to one of three competing health systems (Providence Health System, which includes St. Vincent; Legacy; and Kaiser Permanente). Capturing enrollment for the Providence Health System is now the primary marketing objective for all hospitals in the Providence System. Little to no emphasis is placed on increasing patient volume for specific hospital services. Marketing strategies focus on imaging the health system, rather than a particular hospital or service line. However, a segment of a campaign may have a centers of excellence theme, such as the Heart Institute.

To date, St. Vincent efforts to promote the demonstration have been limited, taking place within broader efforts to image and build consumer awareness of the Heart Institute, the hospital, and its parent organization, Providence Health System. Efforts were concentrated at the beginning of the demonstration, with the objective of communicating the designation, incentives,

and benefits of the demonstration to hospital staff, current and potential referring physicians, Medicare beneficiaries, and the general public.

1. Product

A multi-disciplinary staff of physicians, registered nurses, respiratory therapists, and social workers assures the delivery of high quality care throughout the critical pathway for bypass surgery.

Heavy managed care penetration in the Portland area created an early incentive for St. Vincent to become an efficient provider. As a result, St. Vincent had already closely examined and redefined the services and products associated with bypass surgery and established the critical pathways for bypass patients prior to the hospital's entry into the demonstration.[27] These changes include protocols for early removal of bypass patients from mechanical ventilation (i.e., within four hours of surgery) established in 1992 and protocols for the post-operative care of diabetic and bleeding patients. St. Vincent has made no further changes in the content of care for bypass patients since entering the demonstration.

While there have been no major changes in the products used and services provided to bypass surgery patients, minor changes in equipment and supplies do occur periodically due to advancing technology and clinical research. For example, St. Vincent has changed aspects of the critical pathway for bypass patients in the past year in response to the availability of improved monitoring and blood warming equipment and tubing. The hospital conducts in-service training to educate staff about new equipment and supplies on an "as needed" basis.

The average length of stay for all bypass surgery has been declining steadily by approximately one half day per year since 1990. On average, patients stay in the cardiac recovery unit, where there is one staff person per patient, for two nights. St. Vincent staff have recently started to transfer a small percentage of patients from cardiac recovery after one night. This percentage is expected to increase as physicians become more comfortable and experienced with

[27] The Medicare Heart Bypass Center demonstration project began at St. Vincent Hospital in June 1993.

the practice of early transfer from cardiac recovery. Early transfer from recovery will contribute to further reductions in the length of stay.

2. Price

Although few Medicare demonstration patients will be required to make out-of-pocket payments for hospital or physician services, many Medicare patients and their families will incur other costs as a result of their stay at St. Vincent, such as transportation, accommodations, parking costs.

To alleviate potential cost concerns of patients coming from outlying areas, St. Vincent offers financial assistance for transportation and guest housing. St. Vincent owns and operates guest housing at reduced cost within a five minute walk from the hospital. Each of the eight guest housing units sleeps four people and has a private bathroom, telephone, television, bath linens and bedding. Free parking is available next to and nearby the guest housing complex. If a guest housing unit is not available, the admitting department will refer family members to other nearby accommodations. Eight hotels and motels in the area offer special rates for St. Vincent visitors. St. Vincent is actively exploring fundraising efforts to finance the construction of additional guest housing on the hospital campus. Special parking that includes electrical and water hook-up is available to accommodate patients and families with mobile home vehicles.

The physician outreach coordinator distributes "Patient and Family Convenience Packets" to referring hospitals and physicians offices in the community. Each packet includes: directions to the hospital, a map of the main floor, and brochures explaining the cost, location, and amenities of hospital guest housing as well as hotels and motels near St. Vincent. In addition, the hospital has a pharmacy, optical shop, beauty salon, bank, and gift shop on the premises to accommodate patients and their families.

The Heart Institute does not offer any new or special support services for patients and families under the demonstration. Case managers, clergy, and other professionals provide patient education and family support services to all Heart Institute patients, regardless of who pays for their care. These services include: pre-discharge education, cardiac rehabilitation classes prior to

discharge, patient education on closed-circuit television, on-site cardiac resource center, a cardiac support group, and an interdisciplinary cardiac rehabilitation program.

3. Facility

St. Vincent is located on a wooded suburban campus that is easy to access for patients traveling by car or public bus. The hospital is located at the intersection of two major freeways and parking is readily available. Two city bus lines that run through and around the city of Portland serve the hospital. Portland is currently expanding its light rail train system westward. The new line will include a stop at St. Vincent and is expected to be completed in 1997.

The St. Vincent physical plant is comprised of three adjoining facilities. The main tower of the hospital was built in 1970 and undergoes internal improvement as needed. In 1985, the hospital built a critical care facility. More recently (January 1994) St. Vincent opened an adjacent West Pavilion. From inside the hospital, the two buildings are seamless. This $40 million facility houses expanded heart, maternity, and emergency departments. All cardiovascular services and patients are located on the second floor across both buildings, with the exception of telemetry services. These services and patients are located on the sixth floor in the main tower.

At the start of the demonstration, St. Vincent owned and operated four satellite medical office buildings and urgent care centers in the Portland area. Currently, the Providence Health System operates approximately 8 such satellite care facilities across the Portland area.

4. Referral Network

St. Vincent physician referral base is wide-spread, more than 50 percent of the hospital's patients come from outside the Portland metropolitan area (i.e., Washington, Multnomah, and Clackamas counties in Oregon).

The rise in managed care contracting has lead St. Vincent to explore new strategies to expand its network of referring physicians and therefore increase patient volume. Traditionally, the hospital has relied on individual relationships between staff physicians and their colleagues in the community to support a steady stream of referrals.

a) Individual Physicians

A physician outreach coordinator visits referring physicians in Eastern Oregon three to four times per year and telephones physicians periodically in an effort to maintain and strengthen their relationship with St. Vincent. During these visits and phone conversations, the outreach coordinator informs the physician of any administrative or clinical changes taking place at the hospital and elicits feedback on the hospital's services or referral practices.

St. Vincent is currently considering targeting outreach efforts toward physicians in communities with low managed care penetration. As part of this effort, the physician outreach coordinator is conducting interviews with physicians to determine key factors that influence referral decisions. Representatives at St. Vincent hospital believe that the added prestige associated with the demonstration designation does not influence referral decisions. Physicians make such decisions based on their strong opinion of the quality of care and outcomes at St. Vincent. Hospital representatives do not expect St. Vincent's designation as a Medicare Participating Heart Bypass Center to be a deciding factor in a physician's choice of hospital.

b) Managed Care Contracts

St. Vincent currently has 21 managed care contracts across all hospital services, 18 of which are for cardiac surgery. Six of these contracts are for package price bypass surgery, including the HCFA demonstration. St. Vincent has received numerous requests for information on the design and implementation of the Medicare Heart Bypass Center demonstration from organizations interested in package price contracting. While St. Vincent is interested in additional contracts for carved out services, it is focusing its efforts on capturing patient enrollment for the Health System.

5. Promotion

Traditionally, there has been very little advertising for health care providers and services in the Portland area. Promotional efforts have focused on public relations and personal communications. The increasingly competitive managed care environment has recently lead the three major health systems to conduct image campaigns as part of their efforts to boost enrollment.

Heightened competition for covered lives has led the Providence Health System to include mass media such as paid television, print, and billboard advertising in its promotional efforts. Promotional efforts are now planned and implemented corporately by the Health System rather than by its member hospitals. The health system is developing approximately five advertisements to persuade employers and individuals to choose Providence Health System. Although a segment of a particular campaign may have a "centers of excellence" theme, focusing on a specific hospital or service line such as the Heart Institute, the messages are most often focused on the whole health system. The demonstration has not been referenced in these efforts. However, the Providence Health System is currently beginning to identify potential strategies to increase the system's share of the Medicare market in general.

Promotional efforts at St. Vincent Hospital focus on imaging the Providence Health System as a source of comprehensive, high quality care with the primary objective of increased total enrollment. St. Vincent has not undertaken major promotional activities focusing on the Medicare bypass program since the start of the demonstration. The hospital's efforts to promote the demonstration have been targeted to hospital employees and physicians, referring physicians and hospitals, the general public, and Medicare beneficiaries. These efforts have been based on: public relations; personal communications; and special media.

a) Public Relations/Community Outreach

Public relations efforts related to the Medicare bypass program occurred primarily when the hospital was designated as a demonstration site and following the National Press Conference. Press releases announcing St. Vincent selection as the only demonstration site in the Western United States and the initiation of the project were distributed on December 11, 1992, and May 1993 respectively. As a result, the hospital received regional print coverage in The Oregonian three times over a five month period (12/14/92; 1/31/93, and 5/22/93) and once in the Multnomah County Business Journal (1/18/93). The hospital received national print coverage along with the other demonstration sites following the National Press Conference in July 1993. Regionally, the Press Conference resulted in an article in The Oregonian (7/15/93), hospital staff interviews with two radio stations (KXL, OPB) and a feature in two short television news segments.

b) Personal Communications

Through personal communications, the hospital has endeavored to educate hospital employees, current and potential referring physicians, and Medicare beneficiaries about the purpose, potential impact, as well as financial incentives and benefits of participation in the demonstration. These efforts have included:

Hospital Staff

- Presenting at meetings of department directors, the cardiology section, the cardiothoracic surgery section and the planning policy staff (4/93-5/93).
- Conducting monthly presentations to update cardiology and cardiothoracic surgery sections on the demonstration.
- Conducting multiple education sessions for staff of departments that are part of the demonstration and who will be working with demonstration patients, such as staff in the catheterization laboratory, cardiac operating room, cardiac care unit, cardiac rehabilitation unit, admitting, business office, and medical records. Printed question and answer sheets were distributed at these sessions as well.

Participating Physicians

- Conducting multiple group and individual meetings with participating physicians during the early stages of the project (2/93-5/93) and later in the demonstration to update them on progress to date (10/93).
- Conducting multiple group and individual education sessions with physician office managers to clarify the billing process and procedures during the implementation of the project (4/93-5/93) and later in the demonstration to update them on progress to date (10/93).

Community Based Providers

- Describing the structure and benefits of the bypass demonstration program to physicians and staff of Merle West Medical Center, Klamath Falls (8/93).
- Delivering a dinner presentation on the structure of the demonstration program and the benefits of participation to referring physicians in Portland as part of cardiology symposium (10/93).
- Presenting to physicians in Providence Health System hospitals regarding the incentives and benefits of demonstration participation (3/93, 10/93).

c) Special Media

The hospital has also tried to inform hospital staff, participating physicians, Medicare beneficiaries, and patients about the demonstration through the development and distribution of newsletters and brochures. These efforts have included:

Hospital Staff/Participating Physicians

- Distributing an informational article (5/93) and a project update on the demonstration in The Scoop, the medical staff newsletter (7/93).
- Distributing a general information letter to all medical staff explaining the purpose and potential impact of the demonstration (5/12/93).

- Distributing a detailed "letter of understanding" to all cardiology, cardiac surgery, cardiac anesthesia, and radiology groups describing the purpose and potential impact of the demonstration (5/3/93).
- Distributing a fact sheet about the demonstration to participating physicians and their patients.

General Population/Medicare Beneficiaries

- Distributing, via the Cardiac Outreach Coordinator, a fact sheet to network hospitals and providers that can be given to Medicare beneficiaries (5/93-present).

Patients

- A Heart Institute Brochure developed prior to the start of the demonstration that lists the hospital's final candidacy for the Medicare Heart Bypass Center demonstration as an achievement and outlines the leadership, outcomes research, future directions, academic programs, the planned West Pavilion facility expansion, the regional Cardiac Support Network, and prevention and rehabilitation services at the Institute.
- A Patient Health Education Brochure on cardiac risk factors that allows a patient to estimate their risk of heart attack or stroke.
- A Patient/Family Convenience Packet that emphasizes the quality of care provided at St. Vincent, family support services (e.g., guest housing, interdenominational pastoral services, on-site monthly cardiac support group) and describes the cardiac rehabilitation and health education programs. The packet also includes a list of local accommodations; an area map; a hospital map; a pre-admission information sheet for angiogram and angioplasty patients; and a copy of "Healing Hearts," a pre-admission guide for bypass surgery and other cardiac patients.

d) Mass Media

There have been no mass media efforts to promote the demonstration or St. Vincent specifically. As described above, the Providence Health System has recently begun developing a mass media campaign including paid television, print and billboard advertising that is focused on imaging the health system as a whole.

F. St. Luke's Episcopal Hospital/Texas Heart Institute

St. Luke's Episcopal Hospital is a 949 bed tertiary care hospital located in Houston, Texas. The hospital is a member of the Texas Medical Center in Houston and houses the Texas Heart Institute. The St. Luke's Texas Heart Institute is the largest cardiovascular center in the

world.[28] Other key service lines of the hospital include orthopedics, women's health, digestive diseases, oncology, urology, and neurology services.

There are 61 hospitals in the Houston area in addition to St. Luke's. Nineteen of these hospitals perform bypass surgery. While in 1993, St. Luke's had 7 percent of the market for all inpatient services, it had roughly one third of the market for all cardiovascular services. During that time, St. Luke's had approximately 32 percent of the market for Medicare heart bypass surgery and 39 percent for non-Medicare heart bypass surgery. The volume of Medicare bypass surgery performed in the Houston area has fluctuated slightly over the past four years. However, St. Luke's has remained the market leader.[29]

St. Luke's is in the process of merging with Methodist Hospital, its closest competitor for bypass surgery (i.e., performs the next highest bypass volume). A letter of intent was signed in October 1994 and was approved by the Federal Trade Commission. It is unclear whether this merger will affect the demonstration.

In 1993, 38 percent of the services provided by the hospital were reimbursed under managed care, an increase of five percent from 1992. Reimbursement by non-managed care payers (i.e., commercial payers) decreased approximately 2 percent during that time, while the proportion reimbursed by Medicare remained stable. In comparison, a higher proportion of cardiovascular services than all hospital services were reimbursed by Medicare in 1992 and 1993. From 1992 to 1993, the proportion of cardiovascular services reimbursed by managed care payers increased.

Managed care has had a strong and increasing presence in the Houston metropolitan area since the beginning of the demonstration. Approximately 65 percent of the residents of this area are enrolled in an HMO, PPO, or point of service managed care arrangement, up from 60 percent in 1992. St. Luke's has increased its share of the managed care market for all services combined

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28 The Medicare Participating Heart Bypass Demonstration Project: Interim Report to the Nation, developed jointly by the participating hospitals, July 13, 1993.

29 1993 Medicare bypass surgery data are based on analyses conducted by Health Economics Research as part of their evaluation of national and market area trends in heart bypass surgery.

and for cardiovascular services specifically (from about 74 percent in 1992 to about 78 percent in 1993 in both cases.)

St. Luke's does not market the Medicare Heart Bypass Program as a stand alone product. Rather, the hospital markets the program as one of a family of products available through the Heart Institute. The hospital's marketing efforts for the heart program seek to image the program as leader in the provision of sophisticated, high-quality, cost efficient care. The staff believes these factors, particularly high-tech care, give St. Luke's a competitive advantage over other hospitals in the area.

Promotional activities specific to the demonstration occurred shortly after St. Luke's entered the demonstration.[30] These efforts targeted hospital staff, referring physicians, patients and their families, the general public, and managed care providers. The primary objective of these activities was to inform these groups about the hospital's design as a Medicare Heart Bypass Center and the benefits of the demonstration.

Representatives of St. Luke's believe that the growth in managed care necessitates an emphasis on full product lines rather than individual services. Although St. Luke's competitors increasingly use paid advertising to market their services, the hospital does not favor this approach. As a result, the hospital's promotional efforts have been based on personal communications, special media, and public relations. Several departments are involved in these efforts.

1. Product

The large number of bypass surgeries performed at St. Luke's each year served to focus the attention of hospital staff and physicians on issues related to the efficiency with which services are produced and the overall quality of these services long before the hospital entered the demonstration.[31] According to hospital representatives, the hospital conducts approximately 1500

[30] The Medicare Heart Bypass Center demonstration project began at Saint Luke's in June 1993.
[31] St. Luke's entered the demonstration in June 1993.

Medicare and non-Medicare bypass surgeries per year, the largest volume in the Houston market. An equal number of PTCAs are conducted per year.

St. Luke's continually examines the content, structure and duration of patient care to identify areas where further refinement can be made as new clinical or technical information becomes known. Decisions to change the timing, content, or duration of care are made by a committee of hospital physicians. Often, a physician will seek out a colleague to champion an idea to other physicians on the committee. To date, the hospital has focused its efforts on problems that are not controversial. Costs versus benefits of a proposed change are a key consideration in this process. Currently, St. Luke's is trying to standardize operating room procedures and is considering the use of reusable products.

The staff for cardiovascular services is essentially closed, consisting of one small group of cardiovascular surgeons. The cardiology staff, however, is open. Any licensed physician with hospital privileges may perform angiograms and catheterizations at the hospital, conforming to guidelines produced by the American College of Cardiology.

As part of its continual efforts to improve the efficiency and effectiveness with which staff provide care, the hospital moved ancillary services closer to patients and expanded the duties of nurses to include phlebotomy. There have been no changes in the staff to patient ratios on the inpatient units since the start of the demonstration.

The critical pathway for bypass surgery, developed in 1992, is part of St. Luke's outcomes management program. The pathway was developed by a multi-disciplinary group of staff and reflects an outcomes management approach to patient care. St. Luke's uses outcomes data collected through its patient management system to conduct health services research (e.g., on patient characteristics, average lengths of stay, clinical complications, and system problems and correlates) and to inform service planning decisions. St. Luke's representatives believe that the length of time a bypass patient spends in the hospital may decrease further as these data are analyzed and opportunities for improved quality and efficiency are identified. A post discharge clinical evaluation questionnaire is distributed to demonstration patients three to four weeks following discharge. In response to patient needs identified in the patient management system,

laboratory and cardiac rehabilitation services are now available on weekends. The hospital is also analyzing outcomes data to identify a "best practice" approach to the treatment of Atrial Arrhythmia.

Medicare patients are concentrated in one cardiovascular floor where multi-disciplinary rounds occur twice per week. This arrangement is intended to increase awareness among physicians and hospital staff regarding the demonstration, its goals, and progress. The hospital is considering similar concentrations of other patient populations groups to further improve the quality of patient care and increase efficiencies in the provision of care.

Representatives of the hospital believe that the demonstration has encouraged physicians to decrease lengths of stay when possible. During the third quarter of 1993, the average length of stay for DRG 106 was 11.9 days and the average for DRG 107 was 10.3 days. During the third quarter of 1994, the average length of stay decreased slightly, to 10.5 days for DRG 106 and 9.5 days for DRG 107.[32] Some Medicare patients are ready to return home after 5 or 6 days in the hospital. St. Luke's believes that its high average length of stay relative to other demonstration sites may be attributed to the severity of its case mix and an affluent international patient population that is less cost conscious. Some international patients from remote areas may stay in the hospital longer due to infrequent commercial airline service.

In the intensive care unit, the average length of stay is two post-operative days. However, an increasing number of patients are moving out of intensive care after one day. St. Luke's is actively exploring ways in which key transitions might be stepped up following surgery. For example, the hospital is working with cardiovascular surgery and anesthesia staff to develop protocols for early removal of patients from a ventilator and early mobilization.

2. Price

All patients, regardless of where they seek care, will face some out-of-pocket expenses for hospital and physician costs that are directly associated with bypass surgery. These include

[32] Length of stay data refer to demonstration and non-demonstration bypass surgeries in these DRGs.

costs associated with lodging, transportation, parking, as well as inconvenience and stress. The total price to patients for having CABG surgery at St. Luke's will vary depending on how far the patient has to travel for care and the cost of accommodations.

To off-set some of the non-medical costs associated with heart bypass surgery at St. Luke's, the hospital offers a variety of special services to demonstration patients. Demonstration patients and their families receive assistance with travel planning, discounted accommodations and airfare, as well as free outpatient cardiac rehabilitation. A nearby hotel offers specially negotiated discounted rates for demonstration patients and their families.[33] St. Luke's also has a discount arrangement with Continental Airlines for demonstration patients and families, although few have used this service.

In addition, Patient Services Representatives visit Medicare beneficiaries who qualify for the demonstration after their surgery to see how they are doing and to explain the program. Representatives leave behind written information regarding the demonstration and the billing process. Demonstration patients are also given a Signature Card that entitles patients to amenities and services during their hospital stay such as a morning newspaper, fax and notary services, as well as daily visits from the Patient Services Representative to respond to non-medical needs.[34] In addition, St. Luke's offers Medicare beneficiaries fast and easy courtesy discharge. Interpreters are available to all patients who do not speak English, regardless of demonstration status.

3. Facility

St. Luke's Episcopal Hospital is located on a 200 acre campus and is accessible from the Houston beltway and by public transportation. The hospital was founded in 1954 and is affiliated with Baylor College of Medicine and the University of Texas Medical School at Houston; the Heart Institute was founded in 1962. St. Luke's is one of 8 hospitals in the Houston medical

[33] The rate negotiated for demonstration patients is below the discounted rate negotiated for other St. Luke's patients and their families.

[34] Signature Cards are only available to demonstration patients, hospital employees, and frequent users or visitors to the hospital. The cards are not distributed to all hospital patients.

center complex; 18 other health related institutions, such as medical and other health professional schools as well as diagnostic clinics are located within this complex.

The St. Luke's hospital facility includes a high rise medical tower and a high rise professional building. The professional office building opened in the Fall of 1990 and has been recognized in Architectural Digest. The tower is across the street from the medical tower and is accessible by an enclosed bridge. The medical tower houses inpatient services. Professional offices comprise the majority of the professional building tower, however, ambulatory surgery, outpatient diagnostic testing, non-invasive cardiovascular services, and cardiac rehabilitation are also located in that facility.

St. Luke's currently operates approximately 642 of its 949 beds.[35] These reductions have not affected the hospital's cardiovascular services, however. All of the cardiovascular units, consisting of approximately 230 beds, are open. One of these units, consisting of approximately 33 beds, is designated for Medicare bypass surgery patients.

4. Referral Networks

St. Luke's currently relies on managed care contracts and personal communication between hospital cardiologists and physicians in outlying areas to develop and secure referral relationships. Nearly 70 percent of patients are from Houston and its immediate surrounding areas. The remaining 30 percent come from other areas of Texas, the United States, or the world.

a) Individual Physicians

For the past four years, a physician relations department has attempted to assess and respond to the needs of current and potential referring physicians in order to build and maintain the hospital's referral base. These efforts have focused on physicians within a 50 mile radius of the hospital and have included:

- Visiting physician offices and distributing a quarterly Physician Newsletter to inform physicians about hospital policies, clinical services, practice management tips, and

[35] One bed in the intensive care unit has been closed.

continuing medical education opportunities; the March 1994 newsletter featured cardiology services and mentioned the demonstration.

- Conducting continuing medical education seminars for physicians in the community on specific clinical interventions, patient outcomes, and managed care issues both on site at the hospital and in the community.
- Offering practice management sessions once per month or by request for physicians in the community.
- Keeping physicians informed of progress and medical needs of referred patients during their stay, including demonstration patients.
- Providing traditional physician consultation services on-site and by telephone.

The hospital plans to more actively target affiliated physicians and providers in outlying areas. To help shape the strategy for this effort, physician relations staff are visiting physicians in the community to determine the factors influencing referral decisions. St. Luke's may also develop a report summarizing the first year demonstration results that can be distributes to physicians affiliated with the hospital as well as physicians with whom staff come into contact at medical society meetings, conventions, and other events.

b) Managed Care Contracts

St. Luke's has been involved in managed care contracting for the past twelve years. Currently, the hospital has a total of 65 managed care contracts across all hospital services, 7 of which are for cardiac surgery. The hospital has a total of 21 package price contracts across all services lines. Of these, 10 are for all service lines including cardiovascular services, and seven are for cardiovascular services exclusively. In addition, St. Luke's/Texas Heart is one of six hospitals chosen to take part in the Delta Preferred Cardiac Care network, a global package pricing arrangement for cardiac care services. However, the Medicare contract for bypass surgery is the only one that combines hospital and physician payment. In all other contracts, hospital and physician payments are handled separately (i.e., through two reimbursement checks rather than one).

5. Promotion

St. Luke's marketing philosophy has lead to an emphasis on special media, personal communications, and public relations to promote the demonstration and the hospital. Promotional materials and messages are designed to image the hospital as a leader in the

provision of high quality, high-tech, cost-effective care. In efforts targeted at payers and health plans, St. Luke's has used the demonstration as an example of its experience with cost containment initiatives. Thus far, the hospital has concentrated its efforts on informing payers, physicians, patients, and the general public about the demonstration -- how the program is designed, who can participate, and what the benefits of participation are.

a) Public Relations/Community Outreach

St. Luke's relies on press releases and public relations activities rather than paid advertisements to image the hospital to the general public. A press release emphasizing St. Luke's leadership in the delivery of quality and cost-effective care was generated early in the demonstration to announce St. Luke's participation. The release also noted that St. Luke's Dr. Cooley had pioneered the concept of discounted package pricing for cardiovascular surgery. Local, regional, and national coverage was received through articles in The Houston Chronicle (2/3/93), Texas Medical Center News (2/93), Strategic Health Care Marketing (2/93), and American Hospital Association News (2/93).

Following the hospital's participation in the National Press Conference, local, regional, and national print coverage was received in The Houston Post (7/14/93), Houston Chronicle (7/14/93), Hospitals and Health Networks (9/5/93), Journal of the American Medical Association (8/25/93), Associated Press Part B News (2/93), Modern Healthcare, (7/19/93), American Medical News (7/26/93), The Boston Business Journal (7/23-7/29/93), USA Today (7/14/93), The Boston Globe (7/14/93), and The Indianapolis Star (7/13/93). In addition, two local radio stations and three local television stations featured the hospital in news segments.

More recently, St. Luke's participation in the demonstration has been discussed locally and nationally in two distinct articles. An interview with the hospital's Vice President for Clinical Services, which discussed the project and the Heart Institute's selection as a demonstration site, appeared in THI Cardiac Society (Winter 1994). An article in Health Systems Review (10/93) highlighted St. Luke's participation in the demonstration and the interim results from the first four sites.

The hospital also participates in a number of community-wide activities throughout the year. These activities have included: annual co-sponsorship with the Texas Heart Institute of a fun run each year in October; sponsorship of a speaker's bureau to educate the community on various health issues; and participation in a city wide cardio-pulmonary resuscitation campaign.

b) Personal Communications

Personal communications efforts by St. Luke's consisted primarily of presentations to various audiences to inform and update them on the demonstration design, goals, incentives, and benefits. These efforts included:

Hospital Staff/Participating Physicians

- Informing retired St. Luke's and Texas Heart employees of the demonstration program (7-8/93).
- Providing training and education for employees in departments involved in the demonstration (4/93).
- Presenting to hospital staff about the key design components and goals of the demonstration, the reasons for St. Luke's participation, and how payment is received under the demonstration (2/94).
- Presenting the project at an employee Management Forum (7/94).

Payers

- Presenting "The Dollars and Sense of State-of-the-Art Cardiac Care" discussing the core values and partnerships with HCFA and Delta Airlines and the expected results in terms of quality and finance to various payer audiences (Ongoing).

Community Based Providers

- Presenting implementation plans to participating physicians at service meetings in cardiology, cardiovascular surgery, and consulting sub-specialties (5/93).
- Hosting informational sessions with participating physicians' office managers and staff at the beginning of the demonstration to clarify billing issues, distribute a manual and guidelines, contact information, and demonstration brochure for patients (4/93).
- Presenting to physicians at the beginning of the demonstration to update them on the demonstration project and the benefits of participation to physicians and patients. The presentation reviewed the key design components and goals of the study, the reasons for St. Luke's participation, and how payment is received under the demonstration (2/94).

- Meeting periodically throughout the demonstration with referring physicians and their office staff to provide updates on the demonstration and to discuss relevant policy changes (Ongoing).
- Conducting speaking engagements that included an update on the demonstration and/or distribution of the question and answer brochure. These took place in March, April, May, June, July and October of 1994 at Health Access Texas and in the Village/Memorial area, the Golden Triangle, Huntsville, Brenham, West Houston, Clear Lake, and Northwest Houston.

In addition, St. Luke's is in the process of developing a script and audiovisual presentation regarding the demonstration for medical staff members to use with external medical groups.

c) Special Media

Special media activities conducted to image the hospital and disseminate information regarding the demonstration include:

- Development of a quality assurance brochure to help guide employers, managed care contractors, and referring physicians in the selection of a cardiovascular care program. The brochure profiles St. Luke's volume and staff experience, continuum of care, teaching hospital advantage, quality monitoring systems, and cost-containment initiatives. The brochure describes the demonstration as one of several cost-containment efforts St. Luke's is involved in and as an example of the hospital's leadership in package pricing and managed care contracting. St. Luke's has distributed the brochure, with tailored cover letters, to Houston companies with retired employees covered under contract by St. Luke's, AARP regional members, physicians affiliated with the hospital, and corporate benefits directors in the Houston area.
- Development of a brochure that provides answers to questions commonly asked about the demonstration. The brochure lists toll free telephone numbers that patients and referring physicians can call to receive additional information about the demonstration. St. Luke's delivered brochures to targeted referring physicians in the Harris county area by hospital physician relations staff. Patient representatives at the hospital routinely deliver these brochures to demonstration patients during their stay.
- Development of a patient brochure for cardiovascular services, which briefly mentions the demonstration, for physicians to distribute to their patients (9/94).
- Placement of articles about the demonstration in internal hospital publications such as Inside St. Luke's (7/93), Heart Talk, (at Texas Heart Institute, 8/93), and Medical staff Rounds.
- Placement of two articles regarding the demonstration in the Fall 1994 issue of the hospital publication Vim and Vigor, which has approximately 50,000 subscribers located in Southwest Texas.
- Inclusion of project fact sheet and marketing materials in New Staff Physician Packet and Guide For Referring Physicians.

d) Mass Media

Traditionally, St. Luke's does not promote the demonstration or the hospital's services through paid advertising. In the past, the hospital has participated in limited print advertising developed by the Texas Heart Institute.

G. Methodist Hospital of Indiana

Methodist Hospital of Indiana, a tertiary care facility located in down town Indianapolis, is one of 20 acute care hospitals in the Indianapolis metropolitan area.[36] With 1,120 beds, Methodist is the largest tertiary care facility in the state and the fifth largest private hospital in the nation. The hospital is at the center of the newly formed Methodist Health Group, which brings together a variety of specialized health care services, jointly operated and owned by Methodist Hospital, into an integrated state-wide health system. The Health Group includes MetroHealth, Indiana Medical Network, Indiana Home Health Services, Methodist Occupational Health Centers, Practice Management, Inc., HealthNet Community Health Centers, Methodist Outpatient Centers and several affiliates.[37]

Methodist offers a broad range of services to the residents of the Indianapolis metropolitan area. The four key service lines are: cardiovascular, orthopedics, neurology, and gastroenterology. Methodist houses one of two Level One Trauma Centers in the state.

There are 19 hospitals in the Indianapolis metropolitan area in addition to Methodist. Four other hospitals perform bypass surgery. Since the demonstration began, Methodist's market share for inpatient services, cardiovascular services, bypass surgery, and Medicare bypass surgery have remained constant. Methodist has a slightly higher share of the market for cardiovascular services (22 percent) than it does of the market for general services (20 percent). Methodist has about 31 percent of the market for all bypass surgery, approximately 24 percent of the market for

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36 The Indianapolis metropolitan area includes Marion County and seven surrounding counties.

37 The Medicare Participating Heart Bypass Demonstration Project; Interim Report to the Nation, jointly produced by the participating hospitals, July 13, 1993.

Medicare bypass surgery,[38] and about 31 percent for non-Medicare bypass surgery. Methodist has the second highest share of the Medicare bypass market among its competitors. Although the volume for Medicare bypass surgery has increased in the Indianapolis metropolitan area over the past several years, Methodist's share of the market has decreased.[39]

The presence of managed care in the Indianapolis metropolitan area has increased since the beginning of the demonstration. Methodist's payer mix has changed only slightly since the beginning of the demonstration, however. By the end of the first year of the demonstration, commercial insurers and managed care organizations were paying for a slightly higher proportion of Methodist's cardiovascular services than when the demonstration began. A slightly lower proportion of these services were paid for by Medicare. In contrast, Medicare paid for an equal proportion of all hospital services over that time period, while commercial insurers paid for a lower proportion and managed care paid for a higher proportion. According to hospital representatives, the percent of the managed care market captured by Methodist remained the same (40 percent) throughout this period.

Hospital representatives describe the market for CABG surgery as mature, with little volume growth.[40] All providers of CABG surgery have strong reputations, conduct high volumes of the procedure, and are technically sophisticated. The market for CABG surgery is viewed as stable, with referral relationships solidified. However, rapid growth in managed care is expected to create some instability.

Marketing of cardiovascular services and of the Medicare Heart Bypass Demonstration at Methodist Hospital of Indiana has occurred within the context of broader hospital marketing activities. The primary objective of Methodist Hospital marketing efforts has been to image the hospital as a leader in the delivery of high quality care and cost containment. An underlying objective has been to maintain or increase patient volume by expanding the hospital's base of

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38 Based on bypass surgeries performed on Medicare beneficiaries that fall within DRG 106, DRG 107, and DRG 108 (with procedure codes of 36.10-36.15 or 36.19).

39 Methodist had 28.4 percent of the market in 1990 and 23.9 percent in 1993. The share captured by the market leader increased during this same time period, from 41.3 percent in 1990 to 45.7 percent in 1993.

40 The number of bypass surgeries performed on Medicare beneficiaries by all hospitals in the market increased by 14.7 percent between 1990 and 1993.

referring physicians. Through participation in the demonstration, Methodist hospital hopes to strengthen hospital and physician relationships and to gain experience with package pricing. Methodist did not enter the demonstration to increase patient volumes.

Traditionally, hospital promotional efforts in the Indianapolis metropolitan area have been focused on mass media. Methodist and two other hospitals in the area emphasize television advertising in their promotional efforts. In addition, Methodists promotes the hospital through public relations and special media.

Methodist has undergone one major restructuring of its administrative and care services since the demonstration began, and is preparing for a second. Both efforts have the same aims: resource consolidation and cost containment. Changes have affected the product and promotion components of the hospital's marketing efforts.

"Reinventing Methodist," an internal continuous quality improvement and cost reduction effort, began in November 1993. This initiative resulted in the elimination of approximately 600 full time equivalent positions and the narrowing of hospital marketing efforts. The hospital's marketing unit was reduced from a seven-member team to one person. Other reductions were concentrated among middle management and support staff. For example, the number of Vice Presidents of Nursing was reduced from five to one. Staff discontent with the changes produced by the "Reinventing Methodist" initiative have resulted in some negative personal communication and media coverage of the hospital. According to Methodist representatives, some employees have told patients and the media that nursing staff reductions have compromised the quality of patient care at Methodist Hospital.

Hospital representatives believe that contractual arrangements and physician network development are likely to cause a shift from an open to a closed medical staff configuration. Two physician hospital organizations at Methodist arrange preferred provider and HMO contracts on behalf of physicians. The Methodist Heart Group will invite new and current referring physicians to become members but does not plan to mandate referral relationships or reduce hospital privileges.

1. Product

Most care aspects of heart bypass surgery have remained relatively constant for Medicare beneficiaries since the beginning of the demonstration. Changes have occurred , however, in the mix of personnel caring for bypass patients, ancillary services provided, and the amount of time the patient spends in the hospital. Most of these changes have occurred as a result of the "Reinventing Methodist" initiative.

Physician services affiliated with Medicare CABG surgery at Methodist Hospital have changed little since the beginning of the demonstration. Other staff reductions have affected some aspects of patient care. The hospital has eliminated some labor categories. For example, the hospital no longer employs phlebotomists; this function has been shifted to the nursing staff. Nursing staff are also responsible for delivering trays to patients. Methodist is considering the consolidation of weekend staff to further reduce costs. In addition, patients may no longer choose which meal they would like to have from the menu. Now, patient meals are determined by the hospital food service.

The hospital length of stay for bypass surgery has declined significantly since the beginning of the demonstration while the mortality and complication rates haye remained stable. The average length of stay decreased from 11 days in Fiscal Year 1992 to 9 days in Fiscal Year 1993.

2. Price

All patients, regardless of where they seek care, will face some out-of-pocket expenses for hospital and physician costs that are directly associated with bypass surgery. These include costs associated with lodging, transportation, parking, inconvenience, as well as stress and anxiety. The total price to patients for having CABG surgery at MHI will vary depending on how far the patient has to travel for care and the cost of accommodations.

Methodist does not offer demonstration participants any specialty services to reduce the personal costs associated with their having bypass surgery (e.g., transportation, accommodations) at Methodist rather than another institution. The hospital's down town location may be a

disincentive for patients living in outlying areas, particularly those in the northern part of the state. All patients, regardless of demonstration status, may watch television free of charge in their rooms. The hospital also offers check cashing services, pastoral care services, gift shop, hair salon, library for patients and their families.

3. Facility

Methodist hospital is located on an urban campus that is easily accessible by an interstate highway or public transportation. There medical complex is composed of two main, interconnected buildings. The largest of these buildings, completed in 1986, houses inpatient services, including the majority of cardiac care. The original building, completed in 1908, houses administrative offices. In the Spring of 1995, Methodist will open an expanded wing off of this original building. The children's hospital and eight catheterization laboratories will be relocated to this facility. The new wing will also house expanded trauma facilities and eight additional operating rooms. Two helicopter landing pads will be located on the roof of this facility to accommodate Methodist's Life Line Helicopter.

Methodist is currently building its capacity to deliver primary care in outlying communities through the opening of Methodist outpatient clinics and the acquisition of primary care practices. The opening of two outpatient facilities in the outlying metropolitan area has increased access to Methodist. Two additional outpatient facilities are planned. When these facilities open, Methodist will have sites North, South, East, and West of the hospital.

4. Referral Network

a) Individual Physicians

Methodist has not developed an explicit strategy to increase physician referrals for the Medicare heart bypass program. Instead, the hospital employs a general market strategy that relies on personal communication between individual referring physicians and their colleagues as well as broader efforts to expand the hospital's practice network. These efforts are expected to broaden the base of referring physicians and therefore maintain or increase patient volume.

Methodist has endeavored to achieve these goals through the following activities:

- Establishing a network of four outpatient clinics to the North, South, East, and West of Indianapolis.
- Acquiring primary care practices in the community, from which physician referrals are actively encouraged, but not required.
- Providing half-day physician consultation for cardiology and oncology on-site to small rural hospitals in outlying areas.

Through the opening of outpatient clinics and the acquisition of primary care practices in the community, Methodist is building capacity for outpatient services and reducing its emphasis on inpatient care. Greater emphasis on the provision of services in outlying areas is expected to lead to a reduction in the number of hospital beds from 1100 to approximately 500.

b) Hospitals

Methodist has also attempted to expand its referral network by forming new relationships with other hospitals in the state, including:

- Recently forming a state-wide hospital network with five other hospitals serving the communities of Columbus, Evansville, Lafayette, Ft. Wayne, and Terre Haute, to provide a broad base of providers to support managed care contracting.
- Pursuing a merger with an academic medical center in the area. If the merger occurs, hospital representatives estimate that Methodist will account for 90 percent of the services delivered in the state.

c) Managed Care Contracts

Methodist is hoping to use its experience with the demonstration to attract other package price and managed care contracts. The hospital has received numerous inquiries regarding bundled payment arrangements, but none have resulted in additional contracts. Currently, Methodist has one package price contract, for heart transplant surgery, in addition to the HCFA project. Methodist has developed similar packages for cardiovascular care and bone marrow transplantation.

Methodist's involvement in managed care has grown since the beginning of the demonstration, particularly for cardiac surgery. Seven of the eight managed care contracts added since the beginning of the demonstration are for cardiac surgery.

Representatives at Methodist believe that the demonstration experience has educated physicians with respect to payment policy and facilitated new channels of communication between finance, management, clinical, and research staff. This communication facilitated the creation of the Methodist Health Group. Physicians participating in the demonstration have played a more active role in the finance of patient care. Representatives of Methodist Hospital believe this has enhanced their understanding of managed care policy and implementation.

5. Promotion

Methodist promotes its delivery of high quality care and its cost conscious approach through public relations, special media, and mass media. In some cases, these efforts have referenced the Medicare Heart Bypass program.

a) Public Relations/Community Outreach

Public relations activities specific to the demonstration occurred primarily at the beginning of the project. Methodist plans to distribute a press release highlighting the cost savings, patient volume, and patient satisfaction results at the conclusion of its first year of participation in the demonstration.

Initial press releases focused on Methodist as one of seven hospitals chosen to undertake a national study of lower cost, efficient, and quality heart care. Through participation in the National Press Conference, Methodist received local and national press coverage. Coverage included articles in The Indianapolis Star (7/13/93), Hospitals and Health Networks (9/5/93), Journal of the American Medical Association (8/25/93), Hospital Purchasing News (9/15/93), and The PPO Letter (8/2/93).

Methodist initially distributed several local press releases announcing a patient's involvement in the demonstration. However, these did not result in press coverage. The releases described their participation in a national project "designed to enhance patient care while lowering costs and greatly simplifying patient billing." The releases emphasized the benefits to the patient, referring to the project as "what health care reform is all about."

Although few public relations efforts have taken place that focus on the demonstration specifically, the hospital's demonstration designation and experience is often used as a source of pride in broader hospital imaging and capabilities activities. When discussing the Methodist Heart Group with the media, patients, and other hospital staff, the marketing staff have referenced the demonstration as an illustrative working example of the process and objectives of successful physician and hospital collaboration.

Community outreach activities have been limited, particularly given the down sizing of the marketing staff. Methodist periodically conducts work shops in the community regarding specialty health issue areas. Sessions on cardiovascular health have been discontinued since the departure of the hospital marketing team.

b) Personal Communications

There have been no major efforts to promote the hospital or the demonstration through presentations and other personal communications, other than limited efforts to inform hospital staff and physicians about the demonstration.

c) Special Media

Efforts to promote Methodist through special media have included development of a general information brochure and a video tape, both of which have referenced the demonstration project. The hospital's general information and capabilities brochure includes a paragraph on participation in the demonstration, entitled "Better heart surgery at lower cost," accompanied by a photograph of open-heart surgery. A video tape of Methodist's capabilities refers to the hospital as "pioneer[ing] innovations in the cost and quality of heart care." This segment provides an estimate of the amount of tax dollars that have been saved as a result of the demonstration program. The tape has not yet been distributed, but is intended to provide a general introduction to the hospital to various audiences, including community service organizations, managed care partners, and participants at trade shows.

d) Mass Media

Through media activities, Methodist hopes to increase hospital name recognition among the general public, physicians, businesses, and payers. Paid radio advertisements that image the hospital are also conducted periodically. The hospital has developed and run a series of six television advertisements, each from distinct service perspectives, including trauma and sports injuries, to promote Methodist as a quality health care provider of choice. A consistent message concludes each of the advertisements: "If you could choose a hospital, you would choose Methodist." One of the television spots and a corresponding print advertisement describe Methodist as "one of seven hospitals chosen by the Federal government to lower cost and improve the quality of heart surgery." Methodist periodically runs other television advertisements that simply "brand" the hospital. One such ad ran twice over a six week period during open enrollment season last year. In these advertisements, an actor tells a story about his/her choice of care that concludes with the appearance of "Methodist Hospital" on the television screen.

V. PATIENT VOLUME AND PHYSICIAN REFERRAL PATTERNS

The amount of impact participation in the Medicare Heart Bypass Center demonstration has on a hospital depends on four factors:

- The size of the discount negotiated between HCFA and the hospital for the package of services included under the demonstration;
- The cost savings the hospital is able to realize by improving the efficiency and effectiveness with which CABG surgeries are performed;
- The extent to which any price adjustments the hospital negotiates with HCFA during the course of the demonstration covers any increases in input costs (i.e., labor, materials, etc.) the hospital may experience; and
- The number of CABG procedures perform at the hospital each year.

This chapter focuses on the extent to which the participating hospitals have been able to increase their CABG volume since their entry into the demonstration. As described in the preceding section, each of the hospitals participating in the demonstration is working to increase community awareness of their institution and its designation as a Medicare Heart Bypass Center. The hospitals are also endeavoring to strengthen their ties to primary care physicians in their immediate and extended market areas and to increase the number of managed care contracts they hold. These actions are intended to increase the number of CABG surgeries the hospitals perform each year, both within and outside the demonstration.

A. Patient Volume

This section examines the extent to which CABG surgery volumes[41] have changed at the participating hospitals since their entry into the demonstration. The demonstration sites provided the information on which this analysis is based. The database contains one year of baseline[42] and two and one-half years of data (for both demonstration and non-demonstration CABG recipients)

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41 This analysis is based on **all** CABG surgeries performed at the demonstration sites during the baseline and demonstration periods. This includes CABG surgeries that fall within DRG 104, DRG 105, DRG 106, DRG 107, and DRG 108, or other DRGs with a CABG procedure code (i.e., 36.10-36.15 and 36.19). Many of the CABG surgeries performed at the participating hospitals on individuals 65 years of age and older that fall outside the demonstration fall within the DRGs not included in the demonstration. This expanded database was used for this analysis to provide the broadest possible view of changes in CABG surgery volumes at the participating hospitals during the demonstration period.

42 The baseline period covers the 12 months prior to the point at which the demonstration was fully operational at all four original participating hospitals: July 1, 1990 through June 30,1991.

for the original four hospitals[43] and one year of baseline[44] and nine months of demonstration[45] data for the three expansion hospitals.

The information presented in this section concerning CABG volume within and across the four demonstration sites is sensitive to the decision rules used to aggregate the data and structure the analysis. Lewin-VHI established the rules to address the large, but normal, fluctuations in CABG volumes observed at each of the sites within narrow bands of time (i.e., one month or less) and differences in the official start date for the demonstration at each of the sites. Using the decision rules, project staff:

- Grouped the data into quarters. The aggregated data smooth out some of the week-to-week, month-to-month variation in CABG volume that occurs within sites but still provides units of analysis that can be used to determine whether CABG volumes at the sites are changing over time.
- Used data from three baseline quarters, one "transition" quarter, and up to 10 demonstration quarters to conduct the analysis.[46,47] The transition quarter contains both baseline and demonstration data, since each participating hospital initiated the demonstration at a different point in time during this period. By the first demonstration quarter (July 1991 for the original four hospitals; July 1993 for the expansion hospitals) each hospital had established the systems required to identify patients that would be included in the demonstration, capture all hospital and physician charges associated with their care, and submit a single bill to HCFA for payment (at the amount agreed upon for the bundled services).
- Based monthly CABG volumes on the date of surgery, rather than admission or discharge date.

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43 This is the period for which full volume data are available from each of the participating hospitals. The data are arranged by quarter, starting with the third quarter of 1991 (i.e., July, August, September) and ending with the fourth quarter of 1993 (i.e., October, November, December).

44 The baseline period covers the 12 months prior to the point at which the demonstration was fully operational at the three expansion hospitals: July 1, 1992 through June 30,1993.

45 This is the period for which full volume data are available from each of the participating hospitals. The data are arranged by quarter, starting with the third quarter of 1993 (i.e., July, August, September) and ending with the first quarter of 1994 (i.e., January, February, March).

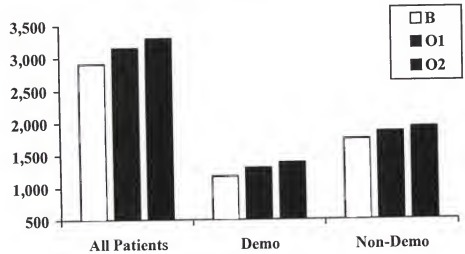
46 The analyses cover the quarters 1990:Q3 through 1992:Q4. Note that CABGs reported by the participating hospitals for the pre-demonstration months of May 1990 and June 1990 are excluded. May and June were dropped from the analysis because not all hospitals provided complete data for these months and none of the hospitals provided April 1990 data, so full quarter data could not be compiled. CABG volume varies so much from month-to-month and between hospitals, adding 2 additional but incomplete months into the following quarter would have skewed the results and made quarter-to-quarter comparisons less meaningful.

47 The analysis is based on 10 quarters of data for the original sites and 3 quarters of data for the expansion sites.

The total number of CABG surgeries performed at the original four demonstration hospitals, as a group, is up over the number of CABG surgeries performed at these institutions during the baseline period (see Figure V-1). CABG surgery volumes increased in both the first and second years of the demonstration at these hospitals combined. Most of the increase occurred during the first year of the demonstration (see Table V-1), however. The total number of CABG surgeries performed by the participating hospitals during Demonstration Year One was almost 9 percent higher than their surgery volume during the baseline period. The upward trend continued in the second year, but at a slower pace. The number of CABG surgeries performed by the original sites during the second year increased by only 4.8 percent over their first year volumes.

Figure V-1

Total CABG Volume
Original Hospitals



The gains in CABG surgery volume under the demonstration at the original four sites have occurred both within and outside the demonstration. First year gains were slightly higher within the demonstration population, but second year gains were almost equally divided between the two groups (i.e., the total number of patients undergoing CABG surgery within the demonstration increased by 78 while the number of patients having CABG surgery outside the demonstration at these sites increased by 72). These gains have not been equally distributed among the sites, however (see Table V-1 through Table V-3). Only three of the four original sites have realized gains. The total number of CABG surgeries performed at the fourth was 12.5

percent lower at the end of the second year of the demonstration than during the baseline period. While the decline in CABG volume at this site occurred both within and outside the demonstration, the largest losses occurred outside the demonstration.

Table V-1

Percent Change in Total CABG Volume at the Original Demonstration Sites

	Demonstration Period					
		Year 1		Year 2		
Demonstration Site	Baseline	Number	% Change	Number	% Change Year 1	% Change Baseline
SJMH	677	697	2.9	827	18.7	22.2
OSU	255	281	10.2	303	7.8	18.8
BUMCH	512	511	(-0.2)	448	(-12.3)	(-12.5)
SJHA	1,462	1,655	13.2	1,716	3.7	17.4
All Sites	***2,906***	***3,144***	***8.9***	***3,294***	***4.8***	***13.4***

Table V-2

Percent Change in Demonstration CABG Volume at the Original Demonstration Sites

	Demonstration Period					
		Year 1		Year 2		
Demonstration Site	Baseline	Number	% Change	Number	% Change Year 1	% Change Baseline
SJMH	277	314	13.4	389	23.9	40.4
OSU	110	120	9.1	140	16.7	27.3
BUMCH	218	224	2.8	198	(-11.6)	(-9.2)
SJHA	566	641	13.3	650	1.4	14.8
All Sites	***1,171***	***1,299***	***19.5***	***1,377***	***6.0***	***17.6***

Table V-3

Percent Change in Non-Demonstration CABG Volume at the Original Demonstration Sites

Demonstration Site	Baseline	Demonstration Period				
		Year 1		Year 2		
		Number	% Change	Number	% Change Year 1	% Change Baseline
SJMH	400	383	(-4.3)	438	14.4	9.5
OSU	145	161	11.0	163	1.2	12.4
BUMCH	294	287	(-2.4)	250	(-12.9)	(-14.9)
SJHA	896	1,014	13.2	1,066	5.1	18.9
All Sites	***1,735***	***1,845***	***6.3***	***1,917***	***3.9***	***10.5***

The combined number of CABG surgeries performed at two of the expansion hospitals during the first nine months of their demonstration participation is up over the number of surgeries performed at these same two institutions during the comparable nine months of their baseline period, but only by 2.2 percent.[48] These gains occurred at only one of the two hospitals, however. The total volume of CABG surgeries at St. Vincent Hospital is up by roughly 6.8 percent over the volume performed during the comparable baseline period while total volume at St. Luke's is down by roughly 1.7 percent.

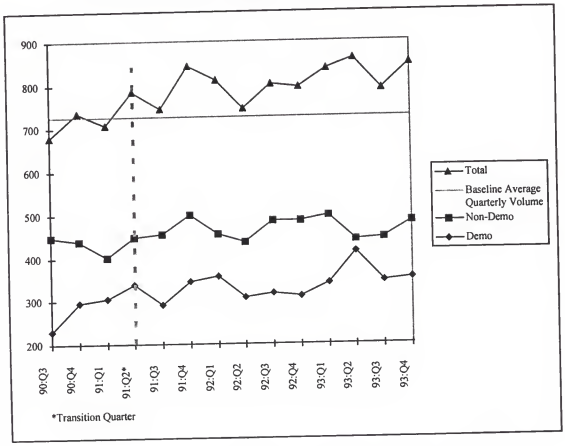
Most of the CABG surgery volume at the expansion sites falls outside the demonstration. During its first 9 months of demonstration participation, St. Vincent did almost three times as many CABG surgeries outside the demonstration as it did on patients within the demonstration; the volume of non-demonstration CABG surgeries at St. Luke's was almost 1.5 times higher than under the demonstration. The third demonstration site, Methodist Hospital, is also performing

[48] The third expansion site, Methodist Hospital of Indiana, did not provide the evaluation team with any information on the number of CABG surgeries performed at the hospital during the 12 month period prior to its entry into the demonstration so it is not possible to include that hospital in this analysis.

more CABG surgeries outside the demonstration than inside, but at this site the ratio is almost 7 to one.[49]

Figure V-2

Total CABG Volume Original Sites (By Calendar Quarter)



Quarterly patient volumes are generally higher at the original demonstration sites (combined) than during the baseline period, but quarterly volumes occasionally dip to levels roughly equivalent to the site's combined average quarterly volume during the baseline period (see Figure V-2). Only two of the sites, St. Joseph Hospital of Atlanta and St. Joseph Mercy Hospital in Ann Arbor, have experienced substantial and sustained upward trends in their quarterly CABG volumes (Figure V-3). Quarterly volumes at most other sites are running only slightly above or are cycling around their average baseline quarterly volumes.

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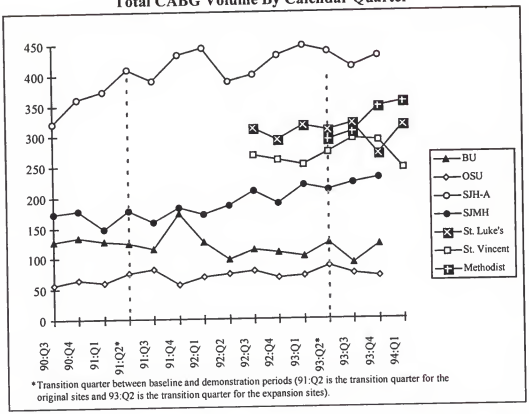
49 Patient volumes at the original sites are less skewed to non-demonstration surgeries, with the exception of St. Joseph Hospital of Atlanta.

Figure V-3
Total CABG Volume By Calendar Quarter



*Transition quarter between baseline and demonstration periods (91:Q2 is the transition quarter for the original sites and 93:Q2 is the transition quarter for the expansion sites).

Only one site, St. Joseph Mercy Hospital, has experienced a sustained upward growth in its demonstration CABG volumes (Figure V-4). Quarterly demonstration volumes at the other sites show substantial quarter to quarter variation and are either hovering just above or cycling around their average baseline levels. Non-demonstration quarterly volumes at all sites exhibit considerable quarter to quarter variation (Figure V-5). Quarterly non-demonstration volumes at three sites appear to be holding at a level somewhat above their respective baseline quarterly averages, while quarterly volumes at the remaining sites fluctuate around the baseline average.

It appears unlikely that any of the sites realized any immediate boost in CABG volume from their designation as a Medicare Participating Heart Bypass Center. None of the sites experienced a substantial jump in their quarterly CABG volumes in the 12 month period immediately following their entry into the demonstration (Figure V-6). Only one site saw any real growth during this period, but that appeared to be a continuation of a pattern established during the baseline period. Tables presenting the total number of CABG surgeries performed at the participating hospitals, by quarter, can be found in Appendix A.

Figure V-4
Demonstration CABG Volume By Calendar Quarter

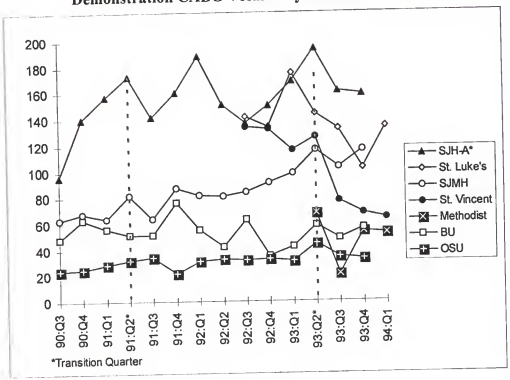


Figure V-5
Non-Demonstration CABG Volume By Calendar Quarter

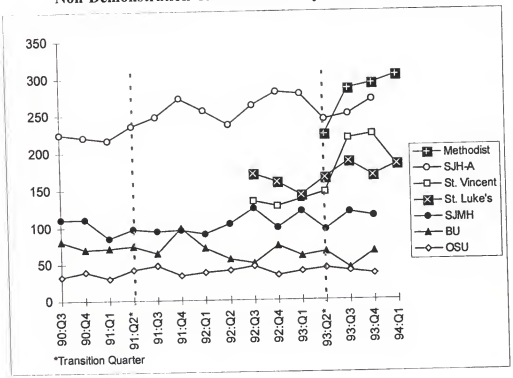
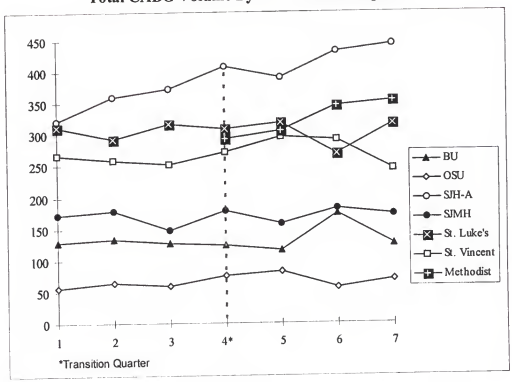


Figure V-6
Total CABG Volume By Demonstration Quarter



B. Patient Characteristics

Lewin-VHI staff analyzed the characteristics of patients receiving CABG surgery at each hospital in order to obtain a better understanding of the types of patients who go to demonstration the sites for CABG surgery and whether the mix of types of patients changed under the demonstration. A change in patient characteristics may indicate success or failure of each hospital's marketing efforts. Markers of success include:

- ***The hospital's market area characteristics have changed.*** This would indicate the success of the hospital's efforts in using its participation in the CABG demonstration as a general marketing tool. Evidence of this could include:
  - Patients drawn from "new" geographic areas (i.e., the appearance of zip codes not represented by CABG patients during the baseline period).
  - An increase in the number of patients from existing geographic areas.
- ***The hospital's bypass population becomes "older."*** This would indicate success of a concentrated marketing effort aimed at increasing the number of people 65 years of age and older who seek CABG surgery at a given hospital, such as by tailoring product offerings to the needs of this segment of the population or by targeting communication messages to this age group.

- ***Medicare is the primary payer for a greater percentage of CABG surgeries.*** This would indicate that the hospital was successful in drawing Medicare patients to the hospital for CABG surgery.

This section reviews the following information for each of the participating hospitals:

- ***Patient demographics***. This information examines the extent to which the age of patients receiving CABG surgery, the overall volume patterns, and the payer mix have changed at the participating hospitals since the start of the demonstration. Figure V-5 shows the relative age breakdown for all seven hospitals, by demonstration year.
- ***Patient origin***. This information looks at the extent to which the hospitals have experienced any changes in patient origin over the length of the demonstration, using a zip-code level map analysis.

For the original four demonstration sites (St. Joseph Mercy Hospital, Ohio State University Hospital, Boston University Medical Center Hospital, and St. Joseph's Hospital of Atlanta), this analysis is based on three years of data, aggregated by quarter. The baseline year covers the period of time from July 1, 1990 through June 30, 1991. Year 1 of the demonstration includes data from July 1, 1991 to June 30, 1992. Year 2 includes data from July 1, 1992 to June 30, 1993.

Analysis for two of the three expansion sites (St. Luke's Episcopal Hospital and St. Vincent Hospital) is based on one year of baseline data (covering the period from July 1, 1992 to June 30, 1993. The first three quarters of the demonstration period (July 1, 1993 through March 31, 1994) are also analyzed.

1. St. Joseph Mercy Hospital

a) Patient Demographics

The population of patients undergoing CABG surgery at SJMH during the baseline period was almost equally divided between persons younger than 65 years of age and patients 65 years of age and older (see Table V-4). SJMH attracted an older CABG patient population during the first and second years of the demonstration (see Figure V-7). Individuals 65 years of age and older accounted for close to 55 percent of the total CABG population (i.e., demonstration and non-demonstration CABG surgeries combined) during both first and second demonstration years. Most of this gain was in persons between the age of 65 and 69. The age distribution of CABG

Table V-4

Percentage Distribution of All CABG Patients (Demonstration and Non-Demonstration combined) by Age, by Demonstration Year

Original Sites

	SJMH			OSUH			BUMCH			SJHA		
AGE	Baseline	Year 2	Year 2	Baseline	Year 2	Year 2	Baseline	Year 2	Year 2	Baseline	Year 1	Year 2
<65	48.7	44.9	45.4	50.2	55.5	51.8	46.1	43.4	45.7	49.4	50.5	50.8
65-69	21.9	22.6	22.3	20.5	17.6	17.6	16.4	17.3	16.4	18.6	16.0	17.2
70-74	15.9	49.4	15.8	18.6	15.1	16.4	21.1	19.8	16.4	17.0	15.3	17.6
75-79	10.7	9.6	11.4	8.8	9.6	10.2	12.1	19.8	19.8	11.7	16.0	9.9
80+	2.7	3.9	5.1	1.9	2.2	4.6	4.4	4.6	6.1	3.4	7.8	4.5
Total	100	100	100	100	100	100	100	100	100	100	100	100
Number[a]	n=515	n=584	n=721	n=215	n=272	n=284	n=412	n=410	n=359	n=1459	n=1659	n=1724

Expansion Sites

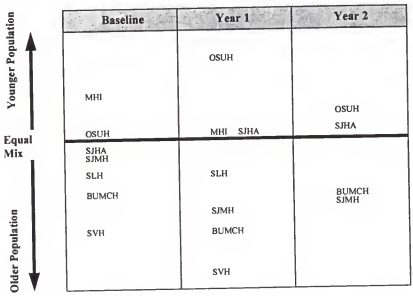
	SVMH			SLEH			MHI		
AGE	Baseline	Year 1[a]	Year 2	Baseline	Year 1[a]	Year 2	Baseline[b]	Year 1[a]	Year 2
<65	43.4	40.4	--	47.4	47.5	--	N/A	50.5	--
65-69	17.1	18.4	--	20.7	21.3	--	N/A	17.0	--
70-74	21.8	20.6	--	16.4	16.1	--	N/A	14.4	--
75-79	11.0	15.8	--	10.9	10.1	--	N/A	12.9	--
80+	6.6	4.8	--	4.6	5.0	--	N/A	5.2	--
Total	100	100	--	100	100	--	N/A	100	--
Number[c]	n=1050	n=827	--	n=1230	n=905	--	N/A	n=1006	--

a Based on three quarters of data for demonstration year 1.

b Baseline data are not included for Methodist Hospital of Indiana because the hospital was only able to provide one quarter of baseline data.

c Totals do not equal CABG volume presented in Table V-4 in all instances. This is due to the fact that age data were not available for all patients at some hospitals

Figure V-7
Relative Age Distribution CABG Patients



patients was quite similar in Year 1 and Year 2, although the share of total volume accounted for by persons age 80 and older increased slightly both years. The number of people 80 years of age and older undergoing CABG surgery at SJMH increased by 64 percent during the first demonstration year and by 61 percent the second.

The number of CABG surgeries performed at SJMH under the demonstration has increased each quarter since the demonstration began (Figure V-8). Total demonstration volume increased 22.7 percent between the baseline period and the second year of the demonstration. The age profile (i.e., percent distribution among the various age groups) of **demonstration patients** was quite similar in both Year 1 and Year 2 of the demonstration, although the share of demonstration volume accounted for by persons age 70 to 74 declined somewhat between the two periods (see Table V-5).[50] The number of demonstration patients between the ages of 65 and 69, 75 and 79, and over the age of 80 increased between Year 1 and Year 2. The most dramatic increases were in the number of persons between 75 and 79 years of age and 80 years of age and

50 The number of patients in this age group remained roughly the same in the second year, but it accounted for a lower percentage of the total dues to the increased number of patients in other age groups.

Table V-5

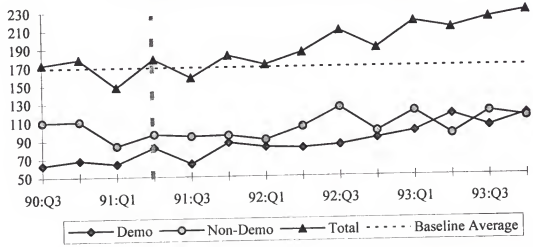
Percentage Distribution of Demonstration CABG Patients by Age

	Original Sites								Expansion Sites		
	SJMH		OSUH		BUMCH		SJHA		SVMH	SLEH	MHI
AGE	Year 1	Year 2	Year 1	Year 2	Year 1	Year 1	Year 1	Year 2	Year 1[a]	Year 1[a]	Year 1[a]
<65	4.5	6.4	14.2	13.6	3.6	9.6	9.1	8.6	3.4	7.3	17.3
65-69	36.6	37.4	30.8	31.4	28.1	23.7	25.1	29.7	31.4	31.4	30.7
70-74	33.8	26.5	31.7	28.6	33.5	31.8	29.6	33.8	36.2	31.4	23.6
75-79	17.8	20.4	18.3	17.9	26.3	24.2	20.0	19.3	22.7	20.4	21.3
80+	7.3	9.4	5.0	8.6	8.5	10.6	16.2	8.6	6.3	9.5	7.1
Total	100	100	100	100	100	100	100	100	100	100	100
Number[b]	n=314	n=393	n=120	n=140	n=224	n=198	n=649	n=663	n=207	n=368	n=127

a Based on three quarters of data for demonstration year 1.
b Totals do not equal CABG volume presented in Table V-4 in all instances. This is due to the fact that age data were not available for all patients at some hospitals

older. The number in the first group increased by 43 percent and the number in the second by 61 percent, as noted above. Most non-demonstration patients are under 65 years of age, although almost 8 percent of non-demonstration CABG surgery at SJMH was performed on individuals 65 years of age and older (see Table V-6).

Figure V-8
St. Joseph Mercy Hospital CABG Volume



Medicare is the primary payer for slightly over half of all CABGs performed at SJMH in both the baseline and demonstration periods (Figure V-9), and the shares of CABG volume paid for by Blue Cross, other commercial insurers, and Medicaid are essentially unchanged. Blue Cross was the primary payer for approximately 25 percent of CABG volume in each period, the highest level of the original four sites.

Figure V-9

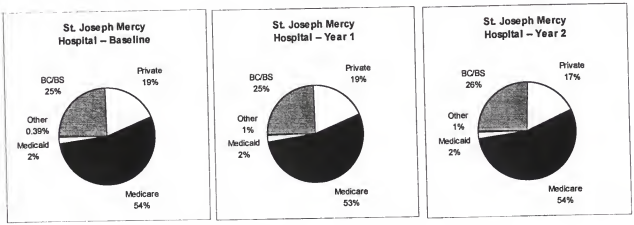


Table V-6

Percentage Distribution of Non-Demonstration CABG Patients

	Original Sites								Expansion Sites		
	SJMH		OSUH		BUMCH		SJHA		SVMH	SLEH	MHI
AGE	Year 2	Year 2	Year 1	Year 2	Year 1	Year 1	Year 1	Year 2	Year 1[a]	Year 1[a]	Year 1[a]
<65	91.9	92.1	88.2	88.9	91.4	90.1	77.0	77.1	75.0	52.7	55.3
65-69	6.3	4.3	7.2	4.2	4.3	7.5	10.1	9.4	14.2	14.0	15.0
70-74	1.9	3.3	2.0	3.5	3.2	1.2	6.0	9.4	6.0	15.3	13.1
75-79	0.0	0.6	2.6	2.8	1.1	0.6	4.4	4.1	3.0	13.5	11.7
80+	0.0	0.0	0.0	0.7	0.0	0.6	2.5	2.0	1.9	4.4	4.9
Total	100	100	100	100	100	100	100	100	100	100	100
Number[b]	n=270	n=328	n=152	n=144	n=186	n=161	n=1010	n=1061	n=620	n=537	n=879

a Based on three quarters of data for demonstration year 1.
b Totals do not equal CABG volume presented in Table V-4 in all instances. This is due to the fact that age data were not available for all patients at some hospitals

b) Patient Origin

During the baseline period (July 1, 1990 to June 20, 1991) St. Joseph Mercy Hospital drew the large majority of its patients from within a 50-mile radius of the hospital (see Exhibit V-1). Nearly all of the hospital's patients came from within Michigan, though very few were from outside of the 50-mile radius.

In the second year of the demonstration (July 1, 1992 to June 30, 1993) the majority of the patients at SJMH again came from within a 50-mile radius of the hospital (see Exhibit V-2). However, the hospital appears to have expanded its reach northward into Michigan slightly. Nearly all of the hospital's CABG patients during this period were from within the state.

2. Ohio State University Hospital

a) Patient Demographics

The population of patients undergoing CABG surgery at OSUH during the baseline period was almost equally divided between persons under 65 years of age and persons 65 years of age and older. Patients under the age of 65 accounted for a larger share of the whole during the first demonstration year, but returned to near baseline levels during the second. The proportion of patients between the ages of 65 and 74 decreased between the baseline and the first demonstration year and held constant in the second. There was a significant increase in the number and percentage of patients over the age of 75 receiving CABG surgery in both the first and second years of the demonstration. Persons between the ages of 75 and 79 accounted for 8.8 percent of total CABG volume in the baseline period and 10.2 percent in the second year of the demonstration; persons 80 years of age and older accounted for 1.9 percent of total volume during the baseline period and 4.6 percent during the second demonstration year.

The total volume of CABG patients at OSUH was 18.8 percent higher in the second year of the demonstration than during the baseline period. OSUH has gained volume both within and outside the demonstration. The hospital's quarter to quarter volumes are slightly above the baseline average, but cycle close to this line (Figure V-10). The age distribution of **demonstration patients** at OSUH (Table V-5) remained largely unchanged between Year 1 and

Exhibit V-1
Origin of CABG Patients Treated at St. Joseph Mercy Hospital
Baseline Period (July 1990 - June 1991)

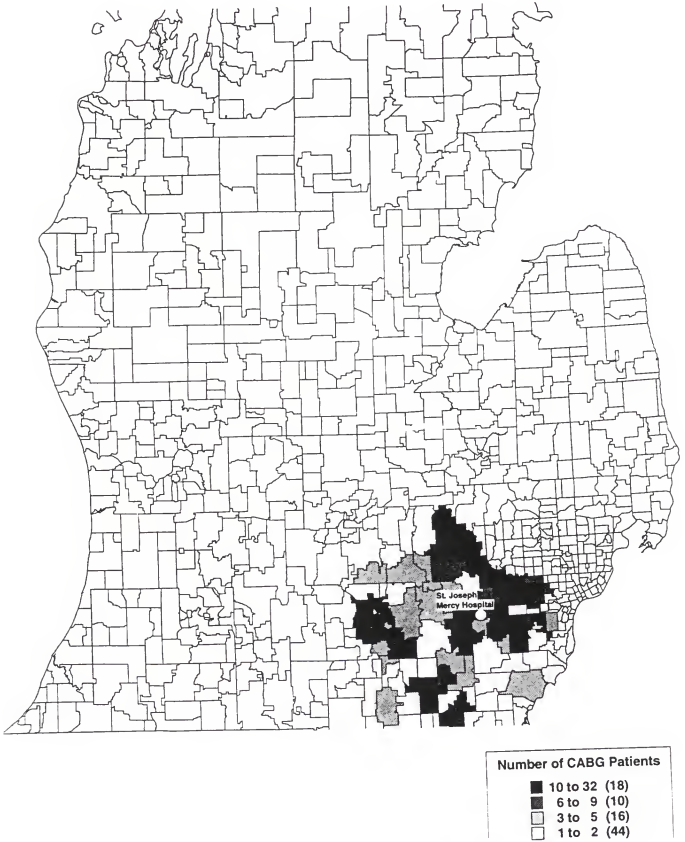
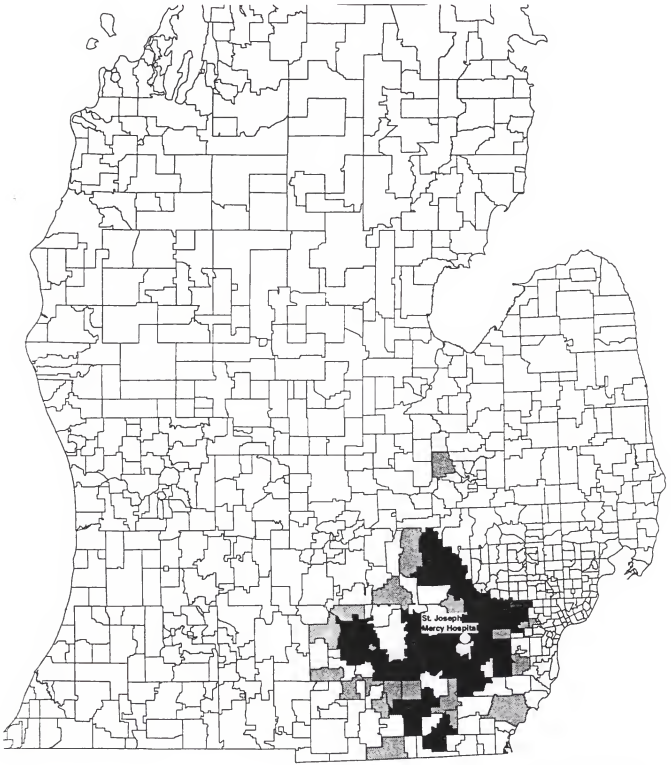
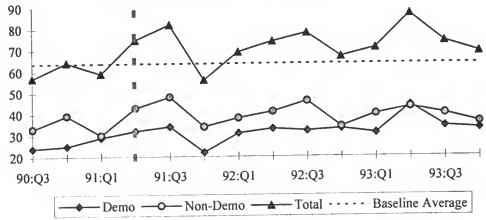


Exhibit V-2
Origin of CABG Patients Treated at St. Joseph Mercy Hospital
Year 2 of Demonstration (July 1992 - June 1993)



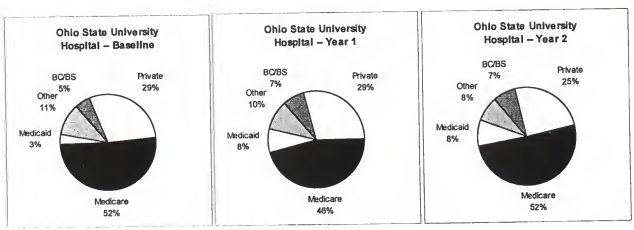
Year 2. Non-elderly patients (i.e. <65 years of age) accounted for roughly 14 percent of demonstration patient volume in each period, substantially higher than the non-elderly share of demonstration CABG volume at the three other original sites. Roughly 11 percent of non-demonstration bypass surgeries were performed on individuals 65 years of age and older, the second highest percentage of the original sites (see Table V-6).

Figure V-10
Ohio State University Hospital CABG Volume



Medicare was the primary payer for roughly half of all CABGs in the baseline period and the second demonstration year (Figure V-11). The proportion of total patient volume attributable to Medicare decreased during Year 1, however. The share of CABG surgeries attributable to

Figure V-11



Medicare was 46 percent during the first demonstration year (the lowest level of the original sites) down from 52 percent in the baseline period. Blue Cross paid for five percent of CABG surgeries in the baseline period and seven percent in each of the first two demonstration years, again the lowest share among the sites. Conversely, Medicaid was the primary payer for a larger proportion of CABG surgery patients at OSUH during the demonstration period (8 percent) than for any of the other sites (1 to 2 percent).

b) Patient Origin

Ohio State University Hospital drew the majority of its patients during the baseline period (July 1, 1990 to June 20, 1991) from the area within 75 miles of the hospital (see Exhibit V-3). To the east, the hospital was able to draw patients from as far as 130 miles away, well into West Virginia. However, the overwhelming majority of the hospital's patients during this period (over 95 percent) came from Ohio.

OSUH's patients during the second year of the demonstration (July 1, 1992 to June 30, 1993) did not come from as wide a region as during the baseline period (see Exhibit V-4). Instead, patient origin was more heavily concentrated within a 75-mile radius of the hospital. As during the baseline period OSUH drew less than 4 percent of its patients from outside the state.

3. Boston University Medical Center Hospital

a) Patient Demographics

BUMCH experienced a 12.5 percent decline in its yearly total CABG volume between the baseline year (512 patients) and Year 2 of the demonstration (448 patients). Most of this loss occurred during the second six months of the first demonstration year and the first six month of the second year (Figure V-11). Declines in the non-demonstration segment were slightly larger than in demonstration segment of the hospital's patient population (Figure V-12).

BUMCH has one of the oldest CABG patient populations[51] of the demonstration sites (see Figure V-7, Table V-4). Patients 65 years of age and older constituted 54 percent of the

[51] Defined as the percentage of the total patient population 65 years of age or older.

Exhibit V-3
Origin of CABG Patients Treated at Ohio State University Hospital
Baseline Period (July 1990 - June 1991)

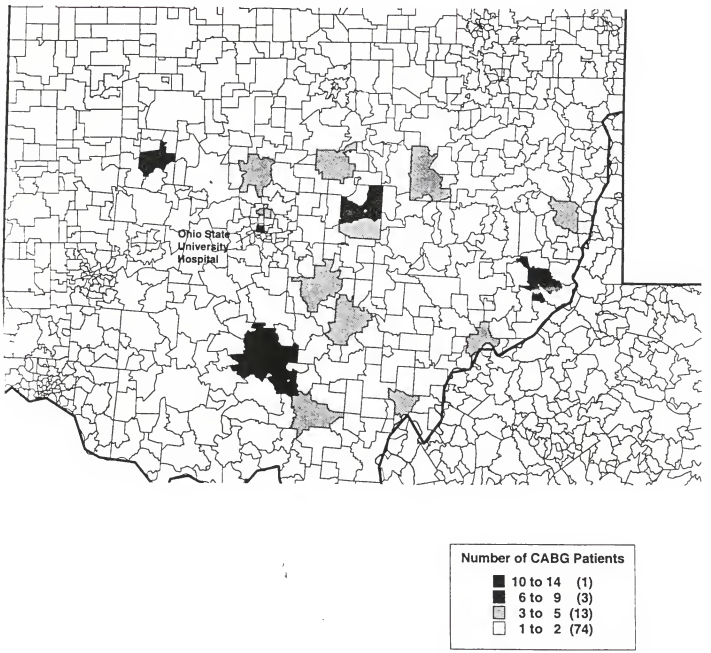


Exhibit V-4
Origin of CABG Patients Treated at Ohio State University Hospital
Year 2 of Demonstration (July 1992 - June 1993)

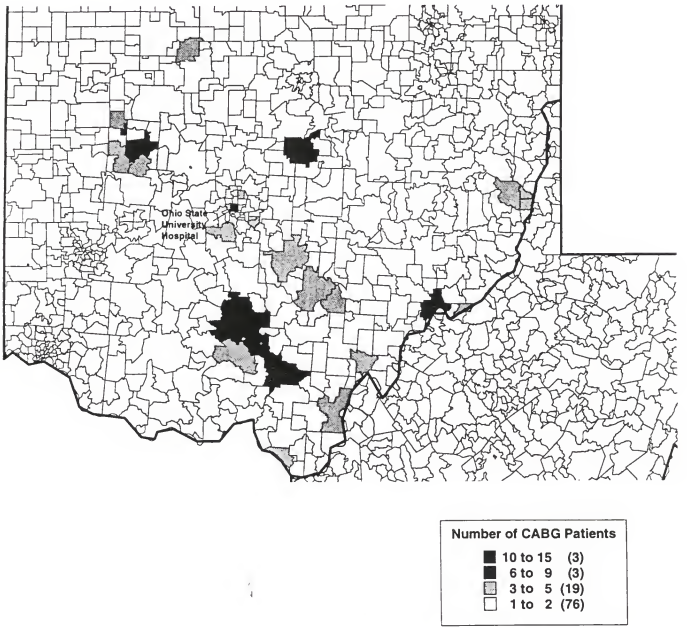
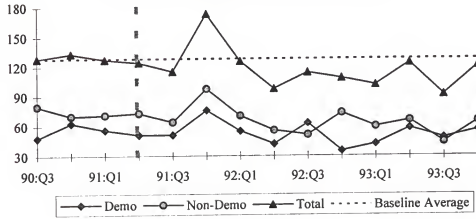


Figure V-12
Boston University Hospital CABG Volume



hospital's total CABG volume (i.e., all demonstration and non-demonstration CABG surgeries combined) in the year prior to the hospital's entry into the demonstration, the highest level of the original demonstration sites and the second highest of the original and expansion sites combined. The hospital's CABG population was even more heavily weighted to elderly patients during the first demonstration year (57 percent of patients were 65 years of age or older), but returned to pre-demonstration levels (54 percent elderly) during the second demonstration year.

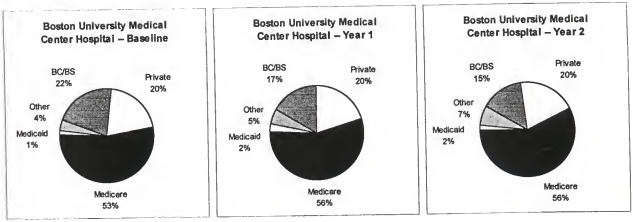
Patients 75 years of age and older accounted for a higher percentage of the total patient population at BUMCH in the baseline year and the first two years of the demonstration than at the other original sites. The percentage of patients in this older age group grew in each of the three periods, from 16.5 percent during the baseline period to 19.9 percent during the second year. The number of patients 80 years of age and older grew in both absolute numbers and as a percentage of the total during this period as well, going from 4 percent of the total during the baseline to 6 percent in the second year, the highest of the original sites in both periods.[52]

[52] The percentage of the total patient population in this age group increased at each of the original demonstration hospitals during this time period as well. During their baseline period, patients 80 years of age and older accounted for a higher percentage of the total at the expansion sites than the original sites. This difference may be accounted for, at least in part, by the two year difference in the timing of the baseline period between the these two group rather than to any major differences in the practice environments or any systematic difference in the practices patterns of the hospitals that make up the two groups.

The proportion of **demonstration patients** between the ages of 65 and 74 decreased substantially between Year 1 and Year 2 (Table V-5). This decrease occurred almost entirely in the 65-69 year age segment. At the same time, the proportion of demonstration CABG volume represented by the individuals 80 years of age and older increased from 8.5 percent to 10.6 percent (a 25 percent increase). While the number of individuals in this age group increased during this period, the dramatic shift in the percentages may have more to do with the declining numbers of CABG surgeries performed at BUMCH since the start of the demonstration rather than a shift in practice patterns or patient composition. More data, over a longer time line, would be needed to determine the importance of these changes.

Medicare served as the primary payer for an increasing percentage of CABG surgeries during each year of the demonstration (Figure V-13). As with the other hospitals, the share of CABG surgeries paid for by commercial carriers and by Medicaid remained essentially unchanged between the baseline and each of the first two demonstration periods. Whether the increasing percentage of Medicare patients in the hospital's total CABG patient population is in any way tied to BUMCH's efforts to market its cardiovascular services and the demonstration can not be determined at this time. The results may be due a loss of Blue Cross and Blue Shield insured patients rather than an increase in the number of Medicare beneficiaries referred for care at the hospital.

Figure V-13



b) Patient Origin

During the baseline period (July 1, 1990 to June 20, 1991) Boston University Medical Center Hospital (BUMCH) drew most heavily from the Boston metropolitan area (see Exhibit V-5). Most of BUMCH's CABG patients came from within a 70-mile radius of the Medical Center (to the North and South). BUMCH drew a very limited number of patients from Western Massachusetts and Rhode Island. Most of the patients from outside of the Boston metro area came from the Cape Cod region of Massachusetts and from southern New Hampshire.

There was little expansion in BUMCH's patient base in the second year of the demonstration (July 1, 1992 to June 30, 1993). Although the medical center did draw a limited number of patients from Western Massachusetts and from Northern New Hampshire, CABG patients generally resided within the same 70-mile radius of the medical center (see Exhibit V-6). In the second year of the demonstration, BUMCH did appear to draw somewhat more heavily from the region directly south of the medical center than it did during the baseline period.

4. St. Joseph's Hospital of Atlanta

a) Patient Demographics

Total CABG patient volume at St. Joseph's Hospital of Atlanta during the second year of the demonstration was 17 percent higher than during the baseline period. SJHA has gained CABG patients both within and outside the demonstration. While the overall trend is up, as Figure V-14

Figure V-15
St. Joseph's Hospital of Atlanta CABG Volume

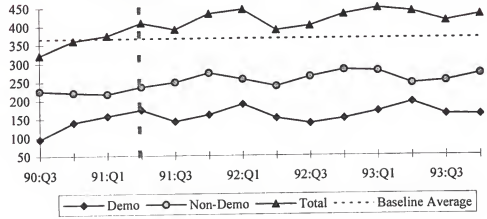


Exhibit V-5
Origin of CABG Patients Treated at Boston University Medical Center Hospital
Baseline Period (July 1990 - June 1991)

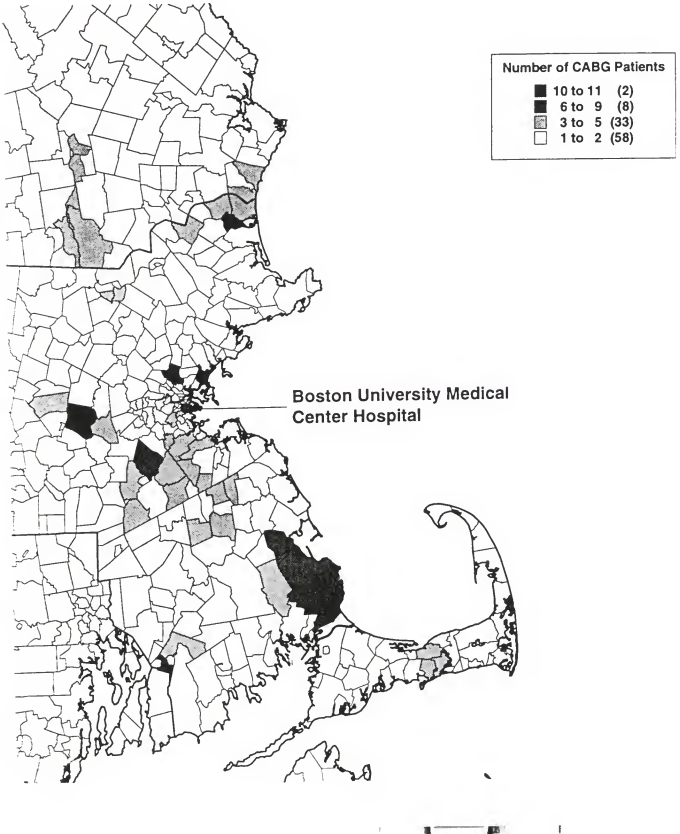
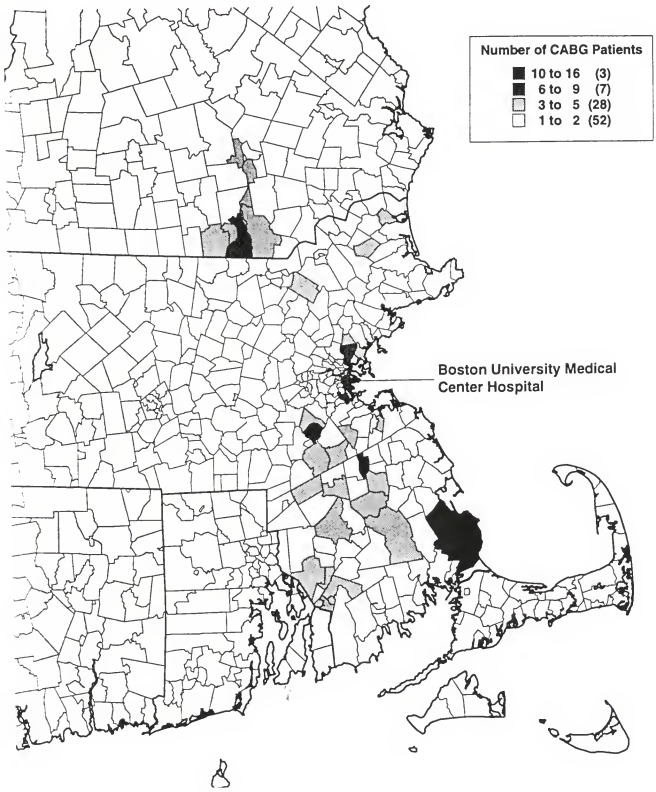


Exhibit V-6
Origin of CABG Patients Treated at Boston University Medical Center Hospital
Year 2 of Demonstration (July 1992 - June 1993)



shows, the hospital's total quarterly volumes have a strong cyclical pattern, that hovers just above the average volume established during the baseline period.

The CABG patient population at St. Joseph's Hospital of Atlanta was almost equally divided between individuals under the age of 65 and individuals 65 years of age and older in the baseline period and the first two years of the demonstration (Table V-4). The age distribution of the population was fairly constant across the three periods as well, except for individuals 80 years of age and older. The number of individuals in this age group undergoing CABG surgery at SJHA increased dramatically in the first year of the demonstration, accounting for 7.8 percent of the total volume. SJHA did more bypass operations on individuals in this age group in the second year of the demonstration than did any other site, but individuals 80 and older accounted for roughly the same proportion of SJHA's entire population of CABG patients as they did at the other demonstration sites.

The largest share of **demonstration patients** at St. Joseph's Hospital of Atlanta in Year 1 (54.7 percent) and Year 2 (63.5 percent) were between age 65-74 (see Table V-5). This share of "young elderly" CABG patients is consistent with recent national Census data that place about 58 percent of the elderly population in this age cohort. The share of demonstration patients represented by the young elderly during Year 1 was slightly lower than at the other hospitals, however. This is due, in part, to the fact patients 80 years of age and older accounted for a larger proportion of demonstration patients at SJHA during Year 1 than at the other demonstration hospitals. The proportion of individuals aged 80 and older who received their bypass under the demonstration remained high in Year 2, but fell to a level closer to that of the other demonstration sites.[53] Roughly 23 percent of non-demonstration bypass patients at SJHA are 65 years of age or older, the highest percentage of the original sites (see Table V-6).

Medicare served as the primary payer for roughly half of all CABGs at SJHA in the baseline period and each of the first two demonstration years (Figure V-15).[54] The distribution of

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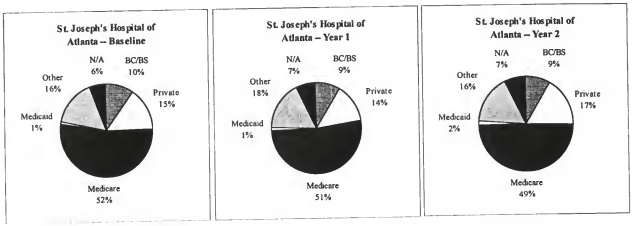
53 Not all persons 80 years of age and older who had bypass surgery at SJHA during this time period took part in the demonstration. Only about 75 percent of the total came under the demonstration during the first year and 80 percent during the second.

54 Even though Medicare's share of the whole stayed within one or two percentage points of 50 percent during this time period, the reader should note that Medicare share of the whole declined each year, from 52 percent in the baseline period to 49 percent in the second year.

other payers remained largely unchanged throughout the baseline period and the first two years of the demonstration as well. It should be noted that St. Joseph's Hospital of Atlanta performed the largest number of CABG surgeries of the original demonstration hospitals. This large sample size may contribute to the relative stability of the distribution of payment sources.

Figure V-15



b) Patient Origin

During the baseline period (July 1, 1990 to June 20, 1991), St. Joseph's Hospital of Atlanta (SJHA) drew a heavy concentration of patients from the area within a 50-mile radius of the hospital (see Exhibit V-7). The majority of the patients resided within a 100-mile radius of the hospital, including patients from North Carolina, South Carolina, Tennessee, and Alabama. Very few CABG surgery patients came to SJHA from outside that radius. Overall, roughly four percent of SJHA's CABG patients came from outside Georgia.

Although SJHA continues to draw the majority of its patients from within a 100-mile radius of the hospital, the hospital appears to have increased the number of patients it draws from between 50 and 100 miles away during the second year of the demonstration[55] (see Exhibit V-8). In addition, the percentage of patients coming to SJHA for CABG surgery from out of state increased to 6 percent.

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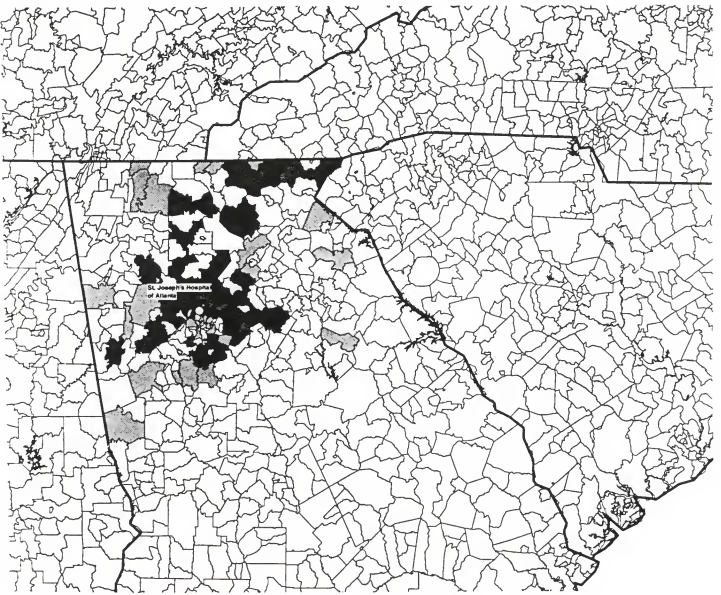
55 July 1, 1992 to June 30, 1993.

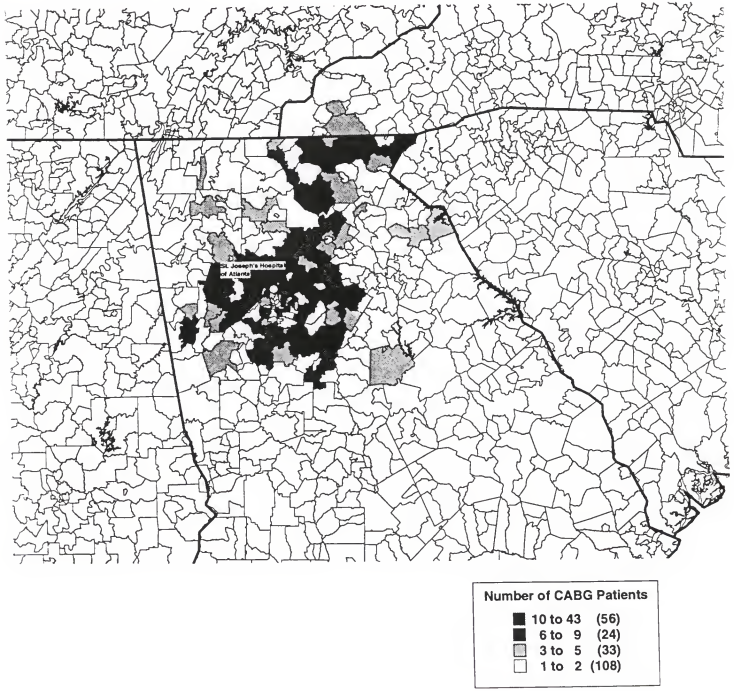
Exhibit V-7
Number of CABG Patients Treated at St. Joseph's Hospital of Atlanta
Baseline Period (July 1990 - June 1991)



Number of CABG Patients

- 10 to 43 (53)
- 6 to 9 (13)
- 3 to 5 (32)
- 1 to 2 (90)

Exhibit V-8
Origin of CABG Patients Treated at St. Joseph's Hospital of Atlanta
Year 2 of Demonstration (July 1992 - June 1993)

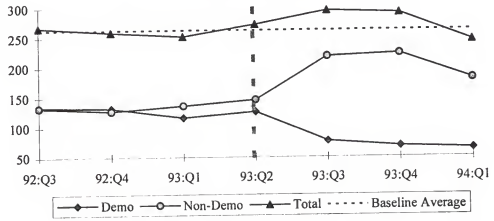


5. St. Vincent Hospital

a) Patient Demographics

As Figure V-16 indicates, the total quarterly volume at St. Vincent Hospital has remained relatively flat since the hospital entered the demonstration. Since this evaluation only looks at the first nine months of the demonstration, it is difficult to predict meaningful patterns in total volume.

Figure V-16
St. Vincent Hospital CABG Volume

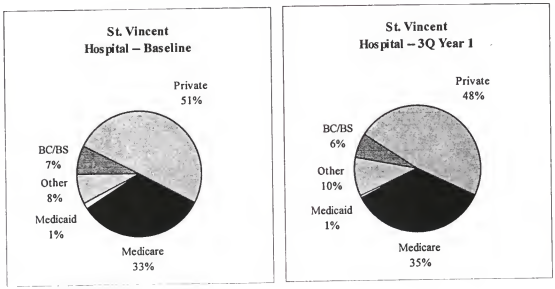


The population of patients undergoing CABG surgery at St. Vincent Hospital is the oldest of the demonstration sites (see Table V-4). Individuals 65 years of age and older accounted for 56.7 percent of CABG patients (demonstration and non-demonstration combined) during the baseline period, and 59.6 percent during the first three quarters of demonstration Year 1. Individuals 70 to 74 years of age accounted for the largest share of the elderly CABG patient population (i.e., individuals 65 years of age and older) at SVMCH during both the baseline period and the first 9 months of the demonstration (see Table V-4). The absolute number and relative share of patients 75 to 79 years of age increased during the first nine months of the demonstration over their level during the entire baseline period.

From the baseline period to the first three quarters of the first year of the demonstration (see Figure V-15) St. Vincent Hospital saw a slight an increase in the percentage of its CABG

patients for which Medicare was the primary payer. This correlated with a slight decline in the number of commercial CABG patients.

Figure V-17



b) Patient Origin

During the Baseline period (July 1, 1992 to June 30, 1993) St. Vincent Hospital drew patients most heavily from the area within 120 miles of the hospital (see Exhibit V-9). Although the hospital drew a limited number of patients from the more remote areas of Washington and Oregon, the majority came from areas closest to the hospital.

St. Vincent Hospital appears to have been successful at expanding its reach for CABG patients (see Exhibit V-10). During the first nine months of the demonstration (July 1, 1993 To March 31, 1994), the hospital continued to draw most heavily from the area within a 120-mile radius of the hospital. However, it was also able to draw a significant number of CABG patients from the eastern part of Oregon, as well as from areas well to the south of the hospital.

Exhibit V-9
Origin of CABG Patients Treated at St. Vincent Hospital
Baseline Period (July 1992 - June 1993)

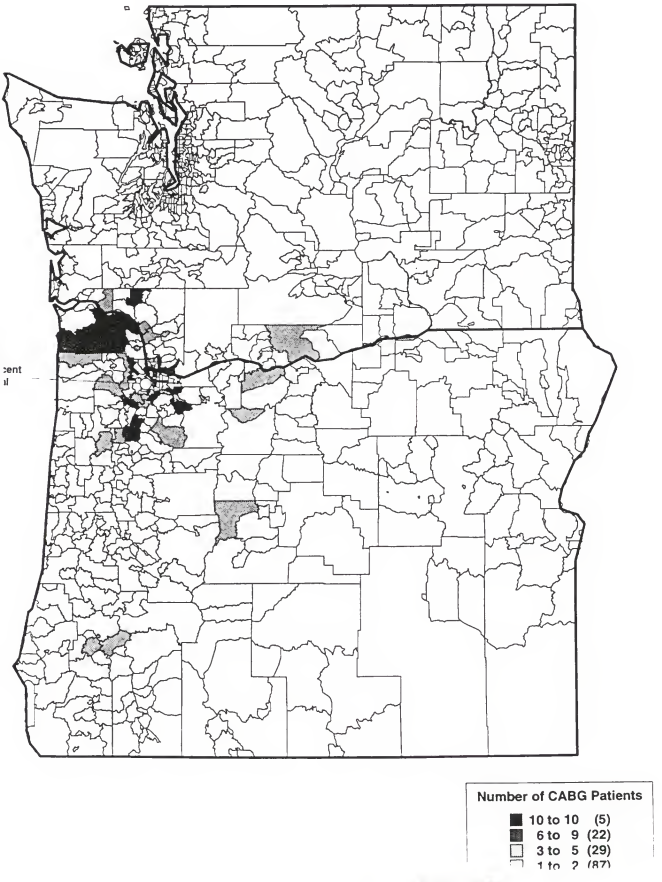
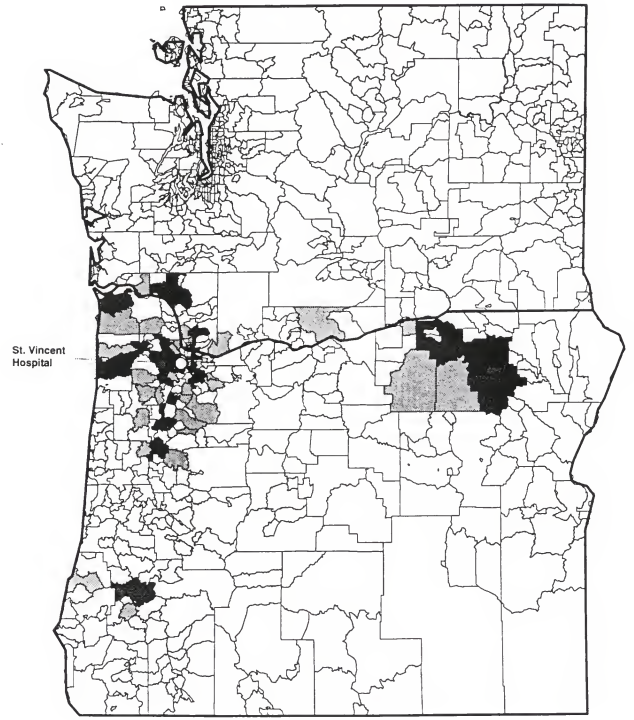


Exhibit V-10
Origin of CABG Patient Treated at St. Vincent Hospital
Year 1 of Demonstration (July 1993 - March 1994)

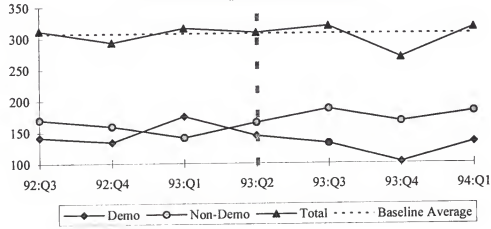


6. St. Luke's Episcopal Hospital

a) Patient Demographics

Figure V-18 shows that total volume at St. Luke's remained flat through the baseline and demonstration periods. It is impossible to predict this early in the evaluation what long-term trends in volume might be at the expansion hospitals.

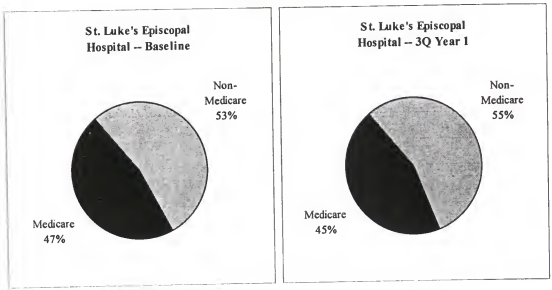
Figure V-18
St. Luke's Hospital CABG Volume



Slightly more than half of the patients undergoing CABG surgery at St. Luke's Episcopal Hospital are 65 years of age and older. Most of these patients are between 65 and 69 years of age (see Table V-4). During the hospital's first nine months of demonstration participation, a larger proportion of patients cared for at St. Luke's were 80 years of age and older than at the other expansion sites. Almost half (47.3 percent) of non-demonstration bypass surgeries are performed on individuals 65 years of age and older (see Table V-6). This is the highest percentage of the demonstration sites.

St. Luke's witnessed a slight decrease in the percentage of patients for which Medicare was the primary payer from the baseline period to the first nine months of the demonstration (Figure V-19). Because St. Luke's was unable to break out specific payers in the non-Medicare cohort, it is difficult to assess any further trends in payment sources.

Figure V-19



b) Patient Origin

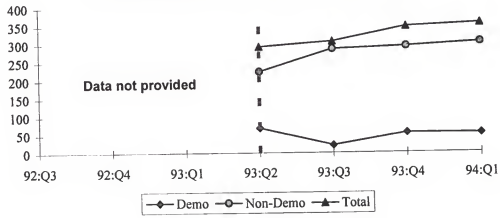
St. Luke's Episcopal Hospital (SLEH) was unable to provide CABG patient zip code information for use in the evaluation.

7. Methodist Hospital of Indiana

a) Patient Demographics

Figure V-20 shows the total volume for Methodist Hospital of Indiana during the "transition" quarter and for the first three quarters of the demonstration. Because of the limited data provided by Methodist Hospital, it is impossible to analyze any meaningful volume trends.

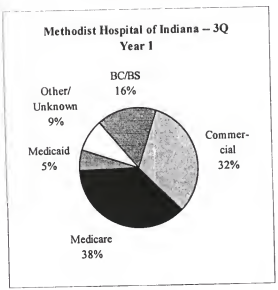
Figure V-20
Methodist Hospital of Indiana CABG Volume



The population of patients undergoing CABG surgery at Methodist hospital during the first nine months of the demonstration was almost equally divided between persons under the age of 65 and persons 65 years of age and older. Close to half of the patients participating in the demonstration during this period were 69 years of age or younger, the highest level of the seven sites (see Table V-5).

MHI has not provided the evaluation team with information on patients undergoing CABG surgery at the hospital during the 12 months prior to the start of the demonstration. Lewin-VHI was unable to determine whether there has been any change in the hospital's payment patterns since the start of the demonstration. The information presented in Figure V-21 below is intended only to provide the reader with descriptive information on the hospital's payment sources during the first nine months of the demonstration. During this period, Medicare was the primary payer for roughly 38 percent of CABG surgeries, one of the lowest levels of the seven sites.[56]

Figure V-21



56 Only one other site, St. Vincent Hospital in Portland, had a lower percentage.

b) Patient Origin

Although Methodist Hospital of Indiana (MHI) was able to provide zip-code level data for all CABG surgery patients entering the hospital since the start of the demonstration, the hospital has not provided similar information on patients receiving CABGs during the 12 month period prior to the start of the demonstration. It is not possible to determine whether the demonstration has had any impact on the area from which the hospital draws patients, such as changes in area boundaries or concentrations within sub-sections, without this information.

C. Physician Referral Patterns

The purpose of this component of the evaluation was to determine whether physician referral patterns to the participating hospitals for CABG surgery change during the demonstration period. The analysis was to be based on data supplied by the sites regarding the location and numbers of patients referred to them by community physicians in their market area. This information, when combined with qualitative information regarding activities engaged in by the sites targeting community-base physicians, would provide insight as to the effectiveness of the sites' efforts to strengthen and expand their referral base. For example, the appearance of new zip codes in the database would indicate an expansion of the hospital's catchment area. Data would also support a determination of how successful the sites were in their efforts to increase the number of doctors in their existing market who refer patients to them for CABG surgery and increase the number of referrals from doctors who have sent patients to them in the past.

The data collected by the participating hospitals on physician referral patterns are very limited. Boston University Medical Center Hospital is the notable exception; it is the only hospital of the seven participating in the demonstration that is able to track physician referrals. BUMCH has referring physician data for about 95 percent of its CABG patients. Ohio State University Hospital, St. Joseph Mercy Hospital, and St. Joseph's Hospital of Atlanta have been able to capture only limited data on referring physicians. Of the expansion sites, only St. Vincent Hospital has been able to provide the evaluation team with information on referring physicians.

Due to the limitations in the data supplied by the hospitals, the evaluation team was unable to analyze the extent to which the participating hospitals have been able to expand their

referral network, either by increasing the number of doctors who routinely refer patients to them or by increasing the frequency with which physicians who are part of their existing network refer patients to them for CABG surgery. The information on patient origin presented above does provide a limited view of the extent to which the hospitals are drawing patients from a wider geographic area or more intensely from one or more sections of their market area.

VI. PARTICIPANT SATISFACTION

Patient and physician satisfaction with services provided by hospitals in conjunction with an episode of illness are widely considered to be an important marker of health care quality. Patient and physician perception of hospital-based care are also important because of their potential to influence decisions involving the choice of specialty providers. The views of community-based physicians and Medicare beneficiaries regarding the services, procedures, facilities, and staff at each of the demonstration sites thus play a pivotal role in determining how successful each of the participating bypass centers will be in their marketing efforts, as measured by their ability to increase CABG volume.

The purpose of the patient and physician satisfaction component of the Medicare Heart Bypass Center Demonstration Evaluation is to provide HCFA with the information it needs to determine whether lowering the amount paid for CABG services and altering the way in which hospitals and physicians are reimbursed for these services affect, in any way, the care provided to Medicare beneficiaries. This analysis involves monitoring whether patient perceptions of care provided by the participating hospitals changes during the demonstration period, based on information provided by each of the sites, and the collection of data from a sample of Medicare beneficiaries undergoing bypass surgery at demonstration sites as well as other hospitals in the seven demonstration markets during the last year of the demonstration period, as well as their referring physicians.

The sections that follow highlight the efforts of the participating hospitals to elicit the attitudes and opinions of patients and physicians concerning their facilities, the skills of their staff, and the quality of care they provide. The content and findings of the hospitals' patient satisfaction surveys is reviewed first, followed by a brief description of the hospital's physician surveys. The information presented in this chapter, based on data collected by the hospitals, provides a limited view of how Medicare beneficiaries perceive the adequacy of the care

available to them through the demonstration, however.[57] HCFA needs to hear from Medicare beneficiaries undergoing bypass surgery both at the seven demonstration sites and at competing hospitals in the demonstration markets, as well as their referring physicians, regarding the factors leading to their selection of a hospital and the nature of the care provided, if it is to fully understand the impact of the demonstration. The chapter concludes with a brief discussion of the patient and physician data collection efforts planned for the national evaluation.

A. Hospital Patient Satisfaction Surveys

All seven hospitals now participating in the Medicare Heart Bypass Center demonstration distribute consumer satisfaction surveys to their discharged patients to learn more about how they view the adequacy of care provided to them by hospital staff during their stay. Each of the hospitals uses a different instrument to collect this information. Three of the hospitals have developed demonstration-specific survey instruments and three use the instruments developed for their general patient surveys. One of the sites, Methodist Hospital, refused to provide any information on the design and contents of their patient satisfaction survey instrument for this report, as well as any information regarding the results of their survey efforts.

The questions on the hospitals' surveys pertain to the following seven elements of hospital care:

- **Quality of Care/Overall Satisfaction.** These questions are designed to elicit the patient's impression of the hospital from a personal point of view. Included under this element are questions related to the courteousness and responsiveness of hospital staff, staff treatment of family and friends, the patient's rating of his or her overall hospital experience, and the patient's willingness to recommend the hospital to a relative or friend.
- **Staff.** Questions in this category focus specifically on the clinical and technical abilities of the hospital staff. Included in this category are issues such as continuity of care, the willingness of staff to share information with patients and the skill with which they do so, and the extent to which the actions of staff maintain the patient's dignity. The participating hospitals ask patients for their views of how well staff in the following groups perform:

[57] Many sites do not desegregate the results of their surveys by service line or solicit the views of individuals who elect to receive care elsewhere. Even if the hospitals did have data at this level of detail, it would not be possible to pool the data due to differences in the instruments and approaches to data collection used by the sites.

- *Medical* -- Patients are asked to rate such attributes as the technical skills of physicians, their ability to share information in a common language, their willingness to spend time with the patient, and their approachability.
- *Nursing* -- Patients are asked to rate such attributes the as technical skills of the nursing staff, their ability to share information in a common language, their willingness to spend time with the patient, and their willingness to explain tests and procedures.
- *Ancillary Staff* -- Patients are asked to rate the technical and interpersonal skills of ancillary and other hospital staff (i.e., billing, food service, housekeeping, etc.).

- **Facilities.** Questions in this category pertain to the patient's overall impression of the hospital's physical plant, equipment, and general maintenance. This element includes the aesthetics of the hospital surroundings, the ease of getting from place to place within the hospital, and the overall comfort of the accommodations.
- **Transitions.** These questions elicit patient reviews regarding the process for admission and discharge, transition between units (i.e., from the in-patient unit to the operating suite, from recovery to intensive care, etc.), and the transition between hospital and home.
- **Patient Education.** These questions focus on the extent to which patients believe they were given sufficient information regarding their condition and care. This element includes whether the patients feel they received adequate information concerning procedures and tests, as well as the results of those procedures and tests, and whether patients feel they received adequate instructions regarding their care requirements once home.
- **Demonstration Awareness.** These questions pertain to patient knowledge of the demonstration and how they acquired that knowledge. This element includes whether patients are aware of the fact they participated in a Federal demonstration, how they found out about the demonstration, and the availability of staff members to answer their questions about specific aspects of the demonstration.
- **Billing.** Questions in this category pertain to the amount and nature of the information given to patients about how they will be billed for their care under the demonstration. This element includes patient understanding of the single bill system and whether patients felt they had received an understandable explanation of the billing from hospital staff members.

Comparison of patient satisfaction across the seven demonstration sites is not possible despite the similarity of the issues the hospitals address through their individual surveys. This lack of comparability is due to a variety of factors. First, each of the hospitals uses a different survey instrument. The instruments vary in length, in the response options offered, the issues on

which the questions focus, and the manner in which the questions are asked.[58] Second, the data submitted by the hospitals do not correspond with each other in time frame, number of patients surveyed, or definition of "demonstration group" (e.g., SVHMC's "demonstration" group is comprised of all cardiac patients, whereas BUMCH's group consists of patients receiving CABG services with DRG codes of 106 and 107). Third, not all hospitals have collected data for their non-demonstration CABG patients or for the general population of patients using the hospital. The lack of data for other patient groups in each of the hospital markets also makes it impossible to compare the satisfaction of demonstration patients to other patients across sites. The development of a standard survey instrument and methodology for the demonstration patients will facilitate cross-site comparison. The proposed application for such an instrument is currently under review at the Office of Management and Budget (OMB).

1. Saint Joseph's Mercy Hospital

SJMH mails a demonstration specific satisfaction survey to each person participating in the Medicare Heart Bypass Program. The survey contains 45 questions arrayed across ten categories: Medical Care, Surgical Intensive Care, Intermediate Care, Nursing Care, Nursing Care Prior to Discharge, Discharge Procedures, Billing, Patient Education, Overall Quality, and Patient Information. The questions primarily focus on interactions between patients and hospital staff. Patients are asked whether they perceive themselves as having received understandable information on a regular basis from medical, nursing, and ancillary staff while in the hospital and as having been provided with sufficient opportunity to ask questions. The survey also asks patients to comment on their experience when being transferred between units and discharged home.

Demonstration patients receive a copy of the survey four to six weeks after their discharge from the hospital.[59] Patients are asked to indicate whether they strongly agree, agree, disagree, or strongly disagree with a series of statements and to indicate whether would

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58 A crosswalk comparison of the survey questions asked by each of the participating hospitals is provided in Appendix B.

59 Patients who do not respond promptly receive a follow-up postcard encouraging them to complete and return the survey. Postcards are sent out two weeks following the initial mailing.

characterize their overall experience as excellent, good, fair, or poor. SJMH received a total of 248 completed questionnaires out of a total of 418 mailed between July 1993 and June 1994, yielding a response rate of 59.0 percent.[60] This was a significant decrease from the 75.2 percent response rate to surveys mailed out during the first 12 months of the demonstration (148 returned of a total of 198 surveys mailed).[61]

- **Quality of Care/Overall Satisfaction.** SJMH uses the manner in which hospital staff treat patients and their family members as its primary indicator of quality patient care. Patients responding to the survey are generally positive about the nature and the amount of interaction they had with staff while in the hospital, as well as the efforts of staff to keep their family members informed as to their condition. The 77.2 percent of Wave II survey respondents rated their overall experience as excellent; 82.6 percent of Wave I respondents rated their overall experience as excellent.[62] Whether this shift represents normal period-to-period variation or signals a change in patient perception of the adequacy of the care provided at SJMH is not know and cannot be determined from the information presented in this report. Virtually all respondents (100 percent of Wave II and 95.9 percent of Wave I) indicated that they would recommend SJMH to family and friends.
- **Staff.** Items pertaining to the performance and demeanor of the hospital's physicians and nurses account for most of the questions regarding staff on the SJMH survey. Many questions are similarly phrased and address issues such as whether: staff spent enough time talking to the patient and provided explanations in understandable terms, the patient felt comfortable asking their care givers questions, the patient had confidence in the skill of their providers, and providers were available when the patient needed them.
  - *Medical* -- Most questions on the SJMH's survey regarding the nature and quality of the medial care center on the surgeons. Of main concern is the surgeon's willingness to spend time with the patient and answer questions. Most respondents either strongly agreed or agreed with these survey items, although a smaller percentage of Wave II respondents indicated they strongly agreed with these statements (the differential between the two groups was roughly 6 percentage points). In addition, virtually all respondents indicated they had confidence in the skill of their surgeon; 72.0 percent of Wave II respondents and 85.2 percent of Wave I respondents were in strong agreement with this

60 Surveys results for the period between July 1993 and June 1994 will be referred to as "Wave II responses" in the discussion that follows.

61 Surveys results for the period between June 1991 and March 1992 will be referred to as "Wave I responses" in the discussion that follows.

62 20.7 percent of Wave II respondents rated their experience as good and 2.1 percent rated it as fair; 16.3 percent of Wave I respondents rated their experience as good and 1.4 percent rated it as fair.

statement.[63] This item (of those survey items focusing specifically on staff behaviors and the adequacy of SJMH facilities) received the highest rating from both Wave I and Wave II survey respondents, indicating the high level of esteem patients have for SJMH cardiac surgeons.

- *Nursing* -- The survey asks patients to comment on the quality of the nursing care they received, by unit (surgical intensive care, intermediate care, and Nursing 2000 -- the nursing unit where CABG patients are prepared for discharge). The responses from both Wave I and Wave II were roughly equivalent, indicating that demonstration patients are generally satisfied with the continuum of nursing care provided at SJMH. Almost all respondents indicated their satisfaction with the care provided by the nurses in the SICU (98.8 percent), Intermediate Care (98.7 percent) and Nursing 2000 (99.1 percent). Although the aggregate percentage of those in agreement with these questions did not vary significantly between the two groups, a smaller percentage of patients from the Wave II group indicated they were in strong agreement with these questions than did patients in Wave I.[64] The survey also asks patients to rate their satisfaction with the nurses' ability to answer questions about treatments and tests, transfer information about the patient's care to other nurses, and treat the patient and his/her family with courtesy. Patient responses to these items were also highly favorable (over 95 percent of respondents indicated their strong and general agreement with these statements) and roughly equivalent in both groups.
- *Ancillary Staff* -- The SJMH survey does not include questions pertaining to the patient interaction and satisfaction with ancillary staff.

- **Facilities.** The survey does not ask patients to comment on specific aspects of the hospital's facilities. However, the survey does allow patients to record general comments regarding the hospital and their stay and to offer suggestions about what steps the hospital might take to improve both.
- **Transitions.** The SJMH survey asks a number of questions about the patient's experience moving between units within the hospital and between the hospital and home.
  - *Admissions:* The survey does not include questions that specifically address the admission process.
  - *Transition Between Units* -- Most questions pertaining to transitions focus on the patient's response to the various moves he or she was required to make during the course of his or her stay. Almost all patients (98.3 percent) responding to both

63 Whether this shift represents normal period-to-period variation or signals a change in patient perception of the adequacy of the care provided at SJMH is not know and cannot be determined from the information presented in this report.

64 For example, 75.3 percent of Wave I respondents indicated their strong agreement with the statement "I had confidence in the skill of the nurses in SICU" and 22.6 percent indicated their general agreement with the statement. In Wave II, 66.7 percent of respondents indicated they were in strong agreement with the statement and 32.1 percent indicated they were in general agreement. Whether this shift represents normal period-to-period variation or signals a change in patient perception of the adequacy of the care provided at SJMH is not know and cannot be determined from the information presented in this report.

Waves of the survey indicated that both their transfer from surgical intensive care to intermediate care and from intermediate to regular care occurred without event.

- *Discharge* -- The SJMH survey specifically asks patients to comment on the efficiency of the hospital's discharge process. Over 96 percent of Wave I and Wave II survey respondents indicated that their discharge went smoothly. The SJMH survey also includes questions that address patient education regarding their care at home and the patient's ability to receive adequate follow-up care from the surgeon. Most demonstration patients (96.5 percent of Wave I respondents and 97.5 percent of Wave II respondents) indicated they felt prepared for self-care upon returning home.

- **Patient Education.** The SJMH survey focuses heavily on the amount of educational information staff provide patients and their families and the manner in which it is provided. The survey asks patients to comment on the ability of both the medical and nursing staff to adequately explain factors that influenced the patient's condition while in the hospital as well as the procedures and events that the patient experienced during the course of his or her care. More than 95 percent of demonstration patients indicated their satisfaction with this aspect of their care. SJMH differs from other hospitals in that it also asks the patient from whom they received the most meaningful information. Over 50 percent of Wave II respondents indicated they had learned the most meaningful information from the thoracic surgeon's office, 17.8 percent from the cardiologist, and 11.2 percent from pre-procedure testing. This is statistically different earlier results, where 45.3 percent of Wave I respondents felt the thoracic surgeon, 43.9 percent felt the cardiologist, and 18.9 percent felt pre-procedure testing provided them with the most meaningful information. Patients are also asked to comment on whether they received enough information on admissions, surgery, and discharge procedures, parking, food services, and lodging; virtually all respondents in both groups indicated that they had received sufficient information regarding these items.

- **Demonstration Awareness.** The SJMH survey asks patients if they were aware of the demonstration and their participation in it when they were admitted to the hospital. Of those responding to the survey, 54.5 percent (a slight decrease from last year's 58.8 percent) did **not** know prior to admission that SJMH was a Medicare Participating Heart Bypass Center. Of patients who knew about the demonstration prior to their admission, 47.5 percent learned about it through their family doctor, 33.5 percent from their cardiologist, and 9.5 percent from a friend or relative. 7.8 percent of the respondents noted newspaper articles as a source of information on the program.

- **Billing.** To gauge the efficiency of the hospital's billing process, the SJMH survey asks patients to evaluate the ability of hospital staff to answer questions in an efficient and courteous manner, and to indicate whether they received an explanation of benefits instead of a bill. Respondent satisfaction with the information they received from SJMH staff regarding their insurance coverage was high in both groups (roughly 98 percent indicated their strong or general agreement with this statement) but more Wave II respondents indicated they had received a bill for their surgery and not an explanation of benefits (92.1 percent of Wave I respondents and 78.4 percent of Wave II respondents indicated that they did not receive a bill).

2. Ohio State University Hospital

In the first year of the demonstration, OSUH administered two separate surveys to its demonstration participants, a general patient satisfaction survey administered to all patients using the services of the hospital and a telephone survey administered only to patients participating in the demonstration. OSUH discontinued the telephone survey during the second year of the demonstration because hospital administrators found there to be little difference in the results of the two surveys. No modifications were made to the general patient satisfaction survey following discontinuation of the phone survey, so OSUH no longer collects any information on demonstration patient awareness of and reactions to the Medicare Heart Bypass Program.

The OSUH patient satisfaction survey focuses on the extent to which patients consider their stay at the hospital to have been a pleasant experience, given the circumstances that lead to their being hospitalized in the first place. The survey elicits information on patient perceptions of and reactions to the behaviors and attitudes of the hospital staff, as well as the patient's overall satisfaction with their hospital experience. The survey consists of a series of statements and scaled responses.[65] For some items, patients are asked to indicate whether they strongly agree (rating=5) with a statement or strongly disagree with the statement (rating=1). The statements are a mix of positive and negative comments, such that for some items a low rating (i.e., 1) is preferable to a high rating (i.e., 5). For other items, patients are asked to rate their experience on a 10 point scale, with 10 being extremely satisfied and one being extremely dissatisfied.

HealthCare Research Systems, a part of the Ohio State College of Medicine, analyzes the results. Survey responses are tabulated and reported for each of three patient groups: 1) CABG demonstration participants; 2) non-demonstration CABG patients; and 3) the remaining population of hospital patients. By dividing the responses in this manner, hospital administrators can draw comparisons among the three groups. HealthCare Research has prepared a series of reports, entitled "Analysis of Patient Satisfaction Data in Medicare CABG Study at the Ohio

[65] There are approximately 68 questions on the survey. The questions are divided into sections based on the various hospital services such as Admissions, Facilities, Food, Physician Care, Nursing, Medical Students, Unique Needs, Ancillary Services, Home Care, and General Patient Information.

State University Medical Center," presenting the results of patient satisfaction survey forms returned by demonstration participants between September 1, 1991 and July 29, 1994.

This report presents the results of surveys mailed to demonstration patients discharged from OSUH between September 1, 1991, and March 23, 1993 and between June 16, 1993 to July 29, 1994. Of the 152 surveys mailed to demonstration participants in the second group (i.e., demonstration patients discharged between June 1993 and July 1994) 43 were returned, yielding a response rate of 28.3 percent, down slightly from the 31.1 percent rate for the earlier group (of 186 surveys mailed between September 1991 and March 1993, 58 were returned). It is important to note that not all respondents answered each question on the survey. This variation is important to note since the number of individuals responding to a particular item may not be large enough for the results to be considered representative of the views of the demonstration population as a whole. This holds true for both groups. Also, due to the small sample size of both the CABG and non-CABG groups, many of the mean scores carry large standard deviations which make it difficult to compare the results across the three groups.

- **Quality of Care/Overall Satisfaction.** The OSUH patient satisfaction survey focuses on the extent to which hospital staff treated patients with courtesy, dignity, and respect. The survey asks patients to rate the courtesy and responsiveness of its admitting, emergency room, medical, nursing, volunteer, pastoral care, social work, and ancillary staff. In general, the responses of CABG demonstration patients were very similar to other CABG patients; however, their ratings were consistently more positive (though sometimes only slightly) than those of hospital patients as a whole. CABG patients are also more positive about their hospital experience overall, than are the general population of patients.[66]

  The OSUH survey also asks patients if they would recommend OSUH to a friend or relative. Demonstration participants are just as likely to recommend the hospital to others as non-demonstration CABG patients and both groups are more likely to recommend the hospital to others than the general population of patients. Most demonstration respondents (n=29 in the second group and n=34 in the first) named

[66] Using a 10 point scale, demonstration patients discharged between June 1993 and July 1994 rated their hospital stay as 9.23, slightly above non-study CABG patients (9.14), and higher than the remaining population (8.53). These results are similar to those for the earlier group (i.e., patients discharged between September 1991 and March 1993). In that group, CABG demonstration patients rated their hospital stay 9.16, slightly below non-demonstration CABG patients who rated their overall stay 9.24, but well above the general population of patients who rated their stay at 8.57.

physician referral as the most significant factor in their choice of OSUH for their CABG procedure.[67]

- **Staff.** Most questions on the OSUH survey that pertain to hospital staff ask about interpersonal skills (i.e., demeanor when interacting with patients, the amount and frequency of communication, etc.) and not technical abilities. OSUH also asks patients to indicate their satisfaction with the **number** of times they saw medical and nursing staff. OSUH is the only hospital of the seven to ask a question of this nature. Demonstration and non-demonstration CABG patients rated this item at 4.32 and 4.33 respectively, slightly higher than the overall population at 4.07 It is important to note however, that the standard deviance for this item was quite high.
  - *Medical* -- Of the ten survey statements concerning physicians, seven address issues directly relating to care. Most focus on the physician spending time with the patient and providing information in understandable terms. Overall, on a scale of ten, the second group of CABG demonstration patients rated physician care at 9.44, non- demonstration CABG patients gave it a 9.28 rating, and general hospital patients a 8.78 rating. The scores for demonstration patients are slightly higher than those of the first group (who rated physician care as 9.34); the scores for non-demonstration patients are slightly lower than those of the fist group who rated physician care at 9.56 last year, as are the scores for the general patient population (first group score = 8.85).
  - *Nursing* -- Survey statements concerning the patient's satisfaction with his or her nursing care are very similar to those for physician care. The second group of CABG demonstration patients rated nursing care (on a ten point scale) at 9.42, the second group of non-demonstration CABG patients gave it a 9.15. The scores are slightly higher than those of the first group (where CABG demonstration patients rated nursing care at 9.29 and non-demonstration patients rated it at 9.11). The general population of patients in the second group rated their nursing care at 8.73, virtually the same as general patients in the first group.
  - *Ancillary:* Patients are asked to rate their satisfaction with the courtesy and responsiveness of several ancillary services including billing, housekeeping, nutrition counseling, public information staff, volunteers, pastoral care, patient transportation, EKG service, laboratory services, X-Ray/Radiology, respiratory therapy, social work, operating and recovery rooms, and unit coordinator (person who answers the call button at the nurse's station). All three patient groups (i.e., demonstration, non-demonstration CABG, and general) consistently rate these items at 4.00 or higher; scores for demonstration patients are slightly higher than for the other two groups, however. As a teaching hospital, OSUH is also interested in the quality of care provided by its medical students. The second group of CABG demonstration patients gave high marks to the medical students they saw, rating their courtesy and manner at 4.48 and 4.50 respectively, slightly

67 Other reasons indicated by demonstration participants include: hospital reputation (n=5); recommendation of a family member or friend (n=4); location (n=4); and previous experience (n=5).

higher than the first group of demonstration patients who gave medical students ratings of 4.36 and 4.40.

- **Facilities.** The OSUH survey focuses on patient response to the general hospital environment, such as the ease with which patients and their families are able to find their way around the hospital and the extent to which patients find their accommodations to be comfortable. The questions pertaining to hospital facilities are posed in a unique manner. Patients are asked to indicate their degree of agreement or disagreement with particular adjectives used to describe the hospital room, environment, and food (i.e., "My room was clean, comfortable, noisy, unfriendly.") In general, CABG demonstration patients (3.68) found the hospital to be more "homey" than did non-demonstration (3.50) or other patients (3.49). At the same time, demonstration patients found their room and the hospital to be noisier than did non-demonstration CABG and other patients. Demonstration patients also rated their room as a more unfriendly place to be than did non-demonstration CABG and general patient respondents.
- **Transitions.** With regard to transitions within the hospital, the OSUH survey focuses more on the attitudes of the staff than on actual procedures.
  - *Admission* -- OSUH's survey asks about the circumstances of the patient's admission to the hospital (e.g., emergency room, pre-planned admission, etc.) and the efficiency and timeliness with which staff handled this process. CABG demonstration patients rated their experience 4.24, slightly below that of non-demonstration patients (4.37) but higher than the general population (4.13).
  - *Transition Between Units* -- The OSUH survey does not address this issue except to question if the personnel responsible for transporting the patients were courteous and responsive. All patients (demonstration, non-demonstration, and general population) gave high ratings to this aspect of their care (4.28 or higher).
  - *Discharge* -- The survey does not address the discharge process, *per se.* Instead, the survey focuses on whether the patient felt adequately prepared to care for herself/himself once at home. Scores from the second group of CABG demonstration patients declined slightly from those of the previous group, but were still above 4.00. One statement asks whether the patient felt that s/he could have benefited from a longer hospital stay. CABG demonstration patients in both groups were more likely to indicate they could have benefited from a longer stay, assigning a higher rating to this item than the non-demonstration CABG group.
- **Patient Education.** The questions addressing patient education on the OSUH survey generally focus on staff efforts to prepare patients for discharge and any follow-up care that will be required. Specifically, OSUH asks whether the patient believes s/he received adequate, understandable information about their care needs, as well as adequate and understandable information on what signs and symptoms to look for as an indication of possible problems. Patient responses to these questions were almost uniformly positive across the three groups in both cohorts considered in this report. Demonstration patients assigned their highest ratings to survey items pertaining to physicians and nursing staff efforts to explain their care and treatment needs.

- **Demonstration Awareness.** Questions pertaining to patient awareness of the demonstration project were limited to the telephone survey. The survey asked whether the patient had heard of the demonstration prior to their admission to the hospital. Most respondents had not heard of the demonstration and had no knowledge of their participation in it. Since OSUH discontinued the telephone survey, no information regarding patient awareness of the demonstration has been gathered, either from the population of patients undergoing CABG surgery at the hospital or the general patient population.
- **Billing.** This aspect of the survey focuses on the manner in which hospital staff treat patients and their families. When questioned about the courtesy and responsiveness demonstrated by the billing office, CABG demonstration patients in the second cohort gave a rating of 4.00, non-demonstration patients gave a rating of 4.24, and the general population gave a rating of 3.99 These results vary from the earlier cohort, when CABG patients gave higher ratings than the other two groups.

3. Boston University Medical Center Hospital

BUMCH conducts a mail survey of all discharged demonstration patients. This section summarizes the results of the surveys mailed to demonstration patients admitted to BUMCH between June 1991 and December 1993. BUMCH aggregated the data collected during this time period to conduct the analyses summarized in this report. The data provided by the hospital cannot be cannot be desegregated into shorter time intervals so it is not possible to examine the data for changes in patient satisfaction across time.[68] BUMCH received approximately 150 responses to the approximately 640 surveys mailed during this period to discharged demonstration patients, yielding a response rate of 23.4 percent. Given the low response rate, the reader should keep in mind that the survey results may not accurately reflect the views of demonstration patients not responding to the survey.

The BUMCH survey focuses on the adequacy of information hospital staff provide to patients during their hospital stay. Other questions pertain to the manner in which staff treat patients (i.e., how courteous they are) and the responsiveness of the staff to the needs of the

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[68] Beginning January 1, 1994, BUMCH incorporated four key indicators of CABG patient satisfaction into a quality advancement program designed to track changes in patient satisfaction on a quarterly basis. The four key indicators are: patient education; pain management; staff professionalism and courtesy; and discharge planning. The hospital has established a threshold level for each of these indicators based on reasonable expectations of service quality. Patient responses to these items during the first two quarter of 1994 exceeded or fell slightly below the threshold levels. For example, 100 percent of respondents (n=60; out of 115 surveys mailed) indicated they received adequate instruction (threshold 95%) and 93 percent rated their discharge planning as effective (threshold 95%).

patient (e.g., pain management). The survey lists a statement and then asks the patient to indicate if s/he strongly agrees, agrees, disagrees, or strongly disagrees. BUMCH also conducts a general patient satisfaction survey, but data equivalent to the information elicited from demonstration patients is not available so the two populations cannot be compared.

- **Quality of Care/Overall Satisfaction.** Questions in this category concern the patient's satisfaction with the helpfulness of staff and the ability of the staff to maintain the patient's sense of well-being. For example, the hospital is interested in whether the patient is satisfied with his or her ability to maintain a daily routine while in the hospital (prior to surgery and during the convalescent period), obtain adequate rest, and receive appropriate pain management. Most demonstration patients (97 percent or higher) indicated their ability to do so. In addition, the survey asks whether the patient was treated in a professional and courteous manner by the staff and if the patient's family and friends were kept informed of changes in the patient's medical condition. Again, most demonstration patients (94 percent or higher) indicated they were satisfied with these aspects of their care. As an overall measure of patient satisfaction, BUMCH inquires if the patient would either return to or recommend BUMCH to others in need of surgery. All of the demonstration patients responding to the survey indicated that they would.
- **Staff.** The BUMCH survey does not ask patients to comment on the technical abilities or skills of the different staff members. Instead, the survey asks patients if they felt staff behaved in a professional and courteous manner.
  - *Medical* -- When asked to respond to whether the physicians were professional and courteous, 100 percent agreed that those in the surgical intensive care unit (SICU) were both professional and courteous. In addition, 98.3 percent of respondents agreed that the physicians on the regular unit also demonstrated these attributes.
  - *Nursing* -- The response pattern to questions concerning the nursing staff was similar. Of the respondents, 97.5 percent agreed that the SICU nurses were professional and courteous. When asked about the nurses on the regular surgical nursing unit, 94.7 percent agreed that these nurses demonstrated these same qualities, while 5.3 percent of the respondents disagreed. Therefore, a higher percentage of respondents seemed dissatisfied with the nurses in the regular unit than with the nurses in SICU.
  - *Ancillary Staff* -- The BUMCH survey does not directly address the quality of service provided by ancillary staff members.
- **Facilities.** The BUMCH survey does not inquire as to the patient's response to the physical lay-out of the hospital or the aesthetics of the facilities.
- **Transitions.** The BUMCH survey does not directly address patient experiences with transitions during the hospital stay (e.g., admissions, transfer to a step down unit, etc.) However, the survey does ask the patient if s/he felt adequately prepared to care for herself/himself at home and whether s/he knew who to contact if there were a problem.

Of those demonstration patients responding to the survey, 98.3 percent indicated they were adequately prepared for discharge and felt comfortable with caring for themselves after discharge, including what to do if they encountered a problem.

- **Patient Education.** Seven of the survey questions directly relate to the verbal and printed information provided to patients during the course of their stay. The questions focus on whether individuals receive clear information, instructions and explanations before a test or procedures, as well as clear explanations of the results. The survey contains one item which is specific to cardiac surgery patients, asking if the hospital's pre-printed information packet was helpful for describing the heart surgery. Of those demonstration patients who responded, 62.2 percent strongly agreed and 37.8 percent agreed that the information packet was helpful. In addition, the survey asks questions concerning the patient's ability to care for themselves after leaving the hospital based on the information they received while in the hospital. Most respondents indicated that they had received adequate and understandable information concerning their condition and their care. The BUMCH survey is unique in that it asks patients if they felt involved in decisions affecting their care. Of those responding, 5.7 percent disagreed with this statement indicating their displeasure that staff had not made an effort to involve them in decisions being made regarding their care.
- **Demonstration Awareness.** The BUMCH survey does not specifically address patient awareness of the demonstration project.
- **Billing.** The survey does not address patient satisfaction with the billing process.

4. Saint Joseph's Hospital of Atlanta

SJHA currently contracts with the Gallup Organization, Inc. to design and administer their patient satisfaction survey. The Gallup survey provides SJHA with data on its HCFA patients, including comparison of those results with data for patients from the hospital as a whole. The hospital chose not to study patient satisfaction in 1993. Instead, Gallup worked with SJHA to develop and implement new areas of inquiry and new strategies for the hospital patient satisfaction measurement efforts. SJHA resumed its demonstration specific survey activities in January 1994; results from this study should be available in early 1995. The information presented in this section are the results from Gallup's interviews of randomly selected patients over the telephone in both 1991 and 1992. Listed below are the number of individuals interviewed by discharge date:

HCFA Demonstration Patients	Total Hospital Patients
July-December 1991 (n=100)	October-December 1991 (n=302)
October-December 1992 (n=50)	October-December 1992 (n=300)

The 44 question survey interviewers used to collect information on patient satisfaction from these individuals focuses on the adequacy of services and care provided by hospital staff. Patients indicate whether staff treated them in a courteous manner, kept them comfortable, provided them with adequate information, and facilitated their transitions between different departments within the hospitals and between the hospital and their home. The survey also asks patients to identify the most and least pleasing aspects of their hospital stay.

Interviewers asked patients whether they strongly agreed, agreed, disagreed or strongly disagreed with each in a series of statements. The values assigned to the response variables were 4, 3, 2, and 1 respectively. Gallup presented the survey results to SJHA as the average of all patient responses to each of the items.

- **Quality of Care/Overall Satisfaction.** In this section of the survey, the interviewer asks the respondent to state his or her general satisfaction with different stages or parts of care (e.g., nursing staff, intensive care unit, accommodations, treatment of family and friends, etc.). Of the demonstration patients included in the 1992 sample, 94 percent were very satisfied with the care they received. This percentage is consistent with the responses given by the 1991 demonstration sample group (95 percent). The satisfaction level for demonstration patients was higher than for hospital patients at large. Only 89 percent of general hospital patients indicated they were very satisfied with the care they received in 1992, up from 87 percent very satisfied in 1991.

  The Gallup Organization also looked for correlation between specific survey items and overall patient satisfaction. The individual items that showed the strongest correlation to satisfaction include: 1) time nurses spent with the patient; 2) the demeanor (i.e., friendly and caring) of individuals in the intensive care and coronary care units (ICU/CCU); and 3) the thoroughness with which patients felt doctors answered their questions.

  Nine in ten demonstration patients stated that they are very likely to choose SJHA again if they were in need of similar services. This response is very similar to that of the hospital as a whole. A slightly higher percentage (92 percent) stated that they are likely to recommend SJHA to a friend or family member. According to Gallup, there is a strong correlation between an individual's willingness to recommend the hospital to others and the individual's perception of personnel in ICU/CCU as being friendly and caring, doctors taking the time to answer their questions thoroughly, and the person's having had the same nurses assigned to their care throughout their hospital stay.

- **Staff.** The SJHA/Gallup survey questions the satisfaction of patients with the intensive care unit and coronary care unit staff and surgery staff. Of particular concern are the patient's impressions of the providers' level of skill, ability to answer questions, and concern for their well-being.
  - *Medical* -- The survey asks five questions with regard to physician skills and the quality and quantity of physician interaction with patients. Respondent ratings for each of these questions decreased between 1991 and 1992. Demonstration patients gave a 3.54 rating to the overall quality of the physician treatment they received in 1992, down slightly from the 3.63 rating given by demonstration respondents in 1991. When asked to rate the doctors' skill level, 1992 demonstration patients responded with 3.46, a nearly 7 percent decline form the 1991 response of 3.71.[69]
  - *Nursing* -- The survey asks eight questions related to nursing care; four of the items focus on the skill of the nursing staff and the ability of the nursing staff to effectively administer treatment (i.e., skill, knowledge of treatment, continuity of care, and quality of treatment). The Gallup study noted that demonstration patients assigned lower ratings to nursing care they received than did patients from the hospital as a whole. This difference between the satisfaction of demonstration and general hospital patients was most apparent on the item pertaining to explanations of tests and procedures provided by the nursing staff. The percentage of demonstration patients who strongly agreed with each of the variables pertaining to nursing care also declined between 1991 and 1992.[70]
  - *Ancillary Staff* -- The SJHA/Gallup survey focuses on two ancillary services: x-ray and lab (blood samples). Patients are asked their satisfaction with these services and the length of time that they had to wait to receive these services. Patients were generally satisfied with the x-ray (3.36) and laboratory (3.34) services as well as the amount of time spent waiting (3.42) The scores provided by the 1992 demonstration patients were slightly lower than those provided by general hospital patients. The scores of 1992 demonstration participants for these items were also lower than the scores provided by demonstration participants in 1991.[71]
- **Facilities.** With regard to facilities, the SJHA survey addresses issues such as the quality of the accommodations (e.g., how quiet the rooms are, whether rooms are kept clean and at a comfortable temperature, etc.) and the food (e.g., taste, temperature, and the appropriateness of selections). Demonstration patients have indicated that they are generally pleased with both the accommodations and the food at SJHA, but the values respondents assigned to each of these variables in 1992 were lower than those assigned by patients in 1991, particularly with regard to noise level (3.24 in 1992; 3.51 in 1991) and the cleanliness of rooms (3.35 in 1992; 3.56 in 1991).[72] Demonstration patients

69 The lower rating in 1992 may be due to normal year-to-year variation rather than a systematic change in the care provided by the hospital. Available data do not support the analysis required to make this determination.
70 Ibid.
71 Ibid.
72 Ibid.

were slightly more positive about the accuracy of the food service (i.e., they were served the meals they selected) than were general hospital patients but they were less satisfied with the overall quality and taste of their meals than were general patients.

- **Transitions**
  - *Admission* -- The admissions portion of the Gallup survey addresses three issues: 1) whether admissions personnel are courteous and caring, 2) the ease of the admissions process, and 3) whether the amount of time the patient has to wait to be taken to his or her room is reasonable. While generally satisfied with this aspect of their hospital stay (i.e., scores in the range of 3.34 to 3.41), demonstration patients rated all three of these variables lower than did the sample of general hospital patients in 1992. The ratings demonstration patients assigned to these items also declined between 1991 and 1992.[73]
  - *Transition Between Units* -- Patients participating in the demonstration in 1992 were generally satisfied with the efficiency (3.38) and courteousness (3.45) of the staff transporting them to various departments but their scores for these services are slightly below those of the general population of hospital patients (3.49 for efficiency and 3.52 for courteousness).
  - *Discharge* -- Overall, demonstration patients rated the SJHA discharge process as efficient. The rating 1992 patients assigned to this element of their stay (3.49) was slightly lower than the score given by demonstration patients in 1991 (3.56) but is fairly consistent with the rating the general population of patients gave to the hospital as a whole (3.51) in 1992.[74]
- **Patient Education.** The SJHA/Gallup survey addresses patient education in several areas: staff members' explanations of tests and procedures, instructions on the use of equipment in room, televised patient education programs and adequate instruction for care for self at home. Demonstration patients in 1992 indicated their satisfaction with the education they received during their hospital stay by assigning ratings of 3.32 and higher to each of the items in this category while 1991 patients rated these items 3.52 or higher. Patient satisfaction with the ability of SJHA's nursing staff to explain tests and procedures was considerably lower in 1992 than in 1991, however (3.32 in 1992 and 3.53 in 1991).[75]
- **Demonstration Awareness.** The SJHA/Gallup survey does not ask patients questions regarding their awareness of the fact they were participating in a national demonstration while in the hospital or their use and perceptions of specific demonstration services.
- **Billing.** The only reference made to billing on the SJHA/Gallup survey is to the business office's ability to process claims and respond to the patient's financial needs. While generally satisfied with these services, the rating given in response to this item

73 Ibid.
74 Ibid.
75 Ibid.

by demonstration patients declined from 3.57 in 1991 to 3.44 in 1992.[76] Demonstration patients were slightly more satisfied with this aspect of their care, however, than were the general population of hospital patients (3.42).

5. St. Vincent Hospital & Medical Center

St. Vincent mails a general inpatient survey to every person admitted to the hospital for care within two weeks of his or her discharge. The SVHMC survey asks patients 37 questions regarding nine aspects of their care during their hospital stay.[77] Patients use a scaled response column to answer most questions.[78] At the end of the survey, patients are asked to provide written comments regarding the most positive aspects of their stay, the most negative aspects of their stay, and the overall care provided by their physicians. This section also provides space for suggestions as to how the patient's stay could have been improved.

St. Vincent entered the HCFA Medicare Bypass Demonstration Project on June 1, 1993. This report focuses on patient survey results from the third quarter of 1992 and the second quarter of 1994. The 1992 data will serve as an indication of patient satisfaction with care at SVHMC prior to the start of the demonstration, to which results from the demonstration period (i.e., the second quarter of 1994) will be compared. The hospital's response rate for surveys sent out to patients in the third quarter of 1992 was 28 percent and 31 percent in the second quarter of 1994.

The hospital's Center for Outcomes Research and Education (CORE) compiles the results of the surveys each quarter and presents the results by hospital service area.[79] Scores are also averaged across service areas to produce a hospital-wide rating. For purposes of this report, satisfaction results for patients discharged from cardiac services wings 6-East (6E) and 6-West

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[76] Ibid.

[77] Patients are asked to rate how satisfied they are with the following hospital services: Admission, Nursing Care, Physician Care, Ancillary Services, Accommodations/Meals, Discharge, Billing, Surgical Care, and Overall Care.

[78] Patients to fill in the circle that most appropriately characterizes their satisfaction with the survey item. The scale options presented are Very Satisfied, Satisfied, Neutral, Dissatisfied, Very Dissatisfied, and Does Not Apply.

[79] Individual response elements are converted to a score on a 1 to 5 scale (for example, very dissatisfied is rated as 1 and very satisfied is rated as 5), and the percentage of patients selecting each response calculated. These results are used the create a weighted average score for each item using the 1 to 5 scale. Hence, a 4.50 given to an item on the survey indicates that 95 percent of those responding were either satisfied or very satisfied with this particular aspect of their care. CORE considers a difference of .05 as statistically significant for St. Vincent's patient satisfaction data.

(6W) will serve as surrogate measures of Medicare beneficiary satisfaction with care under the demonstration and will be compared to general score for all patients. In reality, the patient census on 6E and 6W includes more than just HCFA demonstration patients.[80] Readers are cautioned that the sample of responses presented in the material that follows may not represent a "random" sample in the true sense and that due to the small number of respondents from each of the units, comparisons between units and the hospital as a whole, both within a specific time period as well as across time, may not be valid.

- **Quality of Care/Overall Satisfaction.** Overall patient satisfaction with care at SVHMC fluctuates from quarter to quarter but is generally rated at 4.65 or higher (i.e., satisfied to highly satisfied). Scores ranged between 4.65 and 4.69 from the third quarter of 1992 and the third quarter of 1993, held at 4.65 for the next two quarters, and then dropped to 4.62 in the first quarter of 1994. Whether this decline signals the start of a new trend or simply represents normal quarter to quarter fluctuation is unknown. The overall satisfaction ratings for SVHMC cardiac patients fluctuate as well, but are generally between 0.05 and 0.10 points higher than for the hospital as a whole. In the second quarter of 1994, patients on 6E rated their care at 4.68 and patients on 6W rated their care at 4.76.

  CORE attempts to identify specific factors underlying each quarters overall patient satisfaction scores using multiple regression. This analysis helps illustrate which aspects of care drive overall patient satisfaction. CORE has found the areas that most consistently correlate with overall satisfaction scores to be:

  - Actions taken by nurses to make patients feel physically comfortable;
  - Expressions of compassion and acts of kindness by the nursing staff;
  - Cleanliness of the patient's room;
  - Whether the patient felt adequately prepared for discharge, and
  - The length of time between admission and discharge.

  CORE staff have found that other factors also correlate with overall patient satisfaction, but the relative importance of these factors varies from quarter to quarter, and in some quarters they may not show up at all. In the second quarter of 1994, for example, the skills and knowledge of the nursing staff, the courtesy of the admitting staff, and the concern and caring of the physicians correlated strongly with overall patient satisfaction ratings, in addition to the items identified above.

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80 The demonstration response rates for cardiac patients as a group, are slightly better than for the hospital as a whole. In the third quarter of 1992, 28 out of a possible 74 Medicare patients receiving DRG services with codes 106 and 107, responded, yielding a response rate of 38 percent. In the second quarter of 1994, 26 out of 60 potential HCFA demonstration participants responded, yielding a 43 percent response rate.

The SVHMC survey also queries patients on the likelihood they will recommend the hospital to a friend or relative. In 1994, 96.6 percent of the patients in the 6W group and 92.8 percent in the 6E group responded affirmatively to this question. Patients on 6W appear to be somewhat more likely to recommend the hospital to family and friends than are SVHMC patients in general (92.7 percent of all SVHMC patients answered "Yes" to this question). The 1994 scores on both the cardiac units are lower than they were in 1992, when over 98 percent of the patients on 6W and almost 97 percent of the patients on 6E responded affirmatively to this question. Whether this decline in the willingness of cardiac patient to recommend SVHMC to others signals an a concern on the part of patients with the care experience at SVHMC relative to other hospitals in the market or represents normal period to period fluctuation is unknown.

The SVHMC survey is unique among the demonstration hospitals in that it asks patients whether they believe the test and treatments they received while in the hospital helped to improve their general health status. In 1992, patients on 6E were slight more convinced the care they received at St. Vincent served to improve their health status (score 4.64) than were patients on 6W (score 4.58). In 1994, the two groups exchanged position, with patients on 6W (score 4.64) slightly more convinced of the worth of their care than patients on 6E(score 4.57). In that year patients on 6W were also more convinced of the worth of their care than were SVHMC patients in general (score 4.58).

- **Staff.** The SVHMC survey does not ask patients to comment on the staff's technical abilities, but instead asks patients if they felt the staff were compassionate, helpful, knowledgeable, and respectful. Data taken from 1992 to 1994 indicate that patients consistently rate the compassionate and concerned manner of doctors and nurses as one of the highest aspects of their care at the hospital.
  - *Medical* -- Cardiac patients at SVHMC typically respond favorably (scores of 4.65 or higher) to questions regarding the concern and caring exhibited by the physicians caring for them while in the hospital. Patients on 6W rated physician concern, attention to patient health, and respect for patient needs higher in 1994 than did patients in 1992. In contrast patients on 6E gave significantly lower ratings (differential >0.05) to the patient care behaviors exhibited by their physicians in 1994 than did patients in 1992. It is important to note, however, that physician concern and attention to patient health were still two of the highest rated quality measures in the second quarter 1994, despite their lower ratings relative to 1992.
  - *Nursing* -- Most of the questions related to nursing care on the SVHMC survey focus on the interpersonal skills of the nurses. For the past seven consecutive quarters, patients have rated the compassion and kindness of nurses as one of the best aspects of care at St. Vincent. The results from 1992 and 1994 surveys do not suggest that there is any reason to believe there has been any significant change in the quality of the nursing care at the hospital since it entered the demonstration. Over 95 percent of patients indicated they were satisfied or very satisfied with the

care they received (score 4.61). Cardiac patients generally rate nursing care on their units higher (score 4.65 to 4.70) than the ratings the general population of patients assign to nursing care at the hospital overall. This rating differential held true for both the 1992 and the 1994 surveys.

- *Ancillary* -- The St. Vincent's survey asks patients to rate seven ancillary services: pastoral care, social work, volunteers, phlebotomy, housekeeping, meal/food preparation, and discharge/billing. Cardiac patients generally assign lower scores to SVHMC's ancillary services than they give to other hospital services, but their scores are not significantly different from the scores all patients at the hospital assign to these services. Low scores for some items may be more an artifact of the way in which questions are presented than a reflection of poor quality care, however. For example, the survey asks patients to rate how well their spiritual needs were met while in the hospital but does not indicate that patients needed to directly request pastoral care in order to receive it. Patients may rate this indicator low if they felt the need for such care but did not receive it because it was an "optional" service.

- **Facilities.** Patients are asked to rate the cleanliness of rooms, courtesy of cleaning attendants, overall meal quality, and ease of reading the menu. While patients are generally satisfied with SVHMC facilities (scores of 4.51 and higher), they consistently give low scores to the overall quality of the meals (average score 4.32). This rating may be explained in part by the fact many patients are on restricted diets and are served bland food.

- **Transitions.** The SVHMC survey asks patients to rate the courtesy of staff during the admissions process and while transporting them to their floor following admission. All survey respondents give high ratings to these aspects of their hospital stay. The survey also asks patients to indicate if they felt adequately prepared for discharge. In 1994, 85 percent of all patients indicated they were at least satisfied or very satisfied with preparations for their discharge and 72.6 percent of all patients responded that they felt the nursing staff had prepared them to manage their care at home. The scores of patients on 6E are similar to those for the hospital as a whole, while patients on 6W typically give these items slightly higher scores (differential of 0.07 for home care preparations and a differential of 0.18 for discharge preparations). SVHMC patients are somewhat less satisfied with the amount of time it takes to be discharged from the hospital than they are with other aspects of their care. In 1994, patients gave this aspect of their care one of the lowest ratings (score 4.36) of any measure on the survey, down significantly from the 1992 rating (score 4.36). The SVHMC survey does not directly address the patient's experience with transitions between units.

- **Patient Education.** The patient education questions on the survey are primarily directed toward surgery patients. The survey asks patients to rate their satisfaction with information provided by staff regarding pre-operative procedures, anesthesia, and the surgery itself. The questionnaire also asks patients to comment on the willingness of hospital staff to answer questions and the adequacy of staff efforts to provide them with the knowledge and skills necessary to care for themselves following discharge. Cardiac patients generally give hospital staff high marks (score 4.50 or higher) for

their willingness to provide information about aspects of their surgical care, as well as their skill in doing so. Over 95 percent of respondents in both 1992 and 1994 indicated they were satisfied with the information they received from staff pertaining to their operation. These scores are roughly equivalent to the scores (4.48 or higher) all surgical patients at SVHMC give to these aspect of their care. Relative to the other patient education services, patients give low scores (between 4.37 and 4.44) to staff efforts to prepare them to care for themselves following discharge in 1992 and 1994. The survey also asks the extent to which staff kept the patient's family informed about the patient's surgical care. Patients on the cardiac floor as well as the general population of surgical patients give the hospital high scores (scores>4.50) for this quality measure indicator.

- **Demonstration Awareness.** The SVHMC survey does not ask patients if they are aware the hospital is participating in the Medicare Heart Bypass Demonstration Project.
- **Billing.** There are two questions specific to the billing process on the SVHMC survey. Patients are asked to comment on the courtesy of the business office staff and their own understanding of the billing process. Cardiac patients gave relatively low ratings to both aspects of the billing process in 1994. Cardiac patients gave significantly lower scores in response to the survey statement "My understanding of the billing process" in 1994 than they did in 1992. Their scores were in line with the rest of the patient population, however. From 1992 to 1994, the courtesy of the business staff has remained one of the lowest rated aspects of care at the hospital. In addition, this item's average score has dropped from 4.38 to 4.28 during the past two years. But the data suggests that patients are not necessarily dissatisfied with billing at SVHMC, but are more often "Neutral" to this item or feel it "Does Not Apply" to them, compared to other items on the survey. For instance, in 1994, 23.3 percent of the all patient population were very satisfied with their understanding of the billing process, 21.8 percent were satisfied, 12.9 percent were neutral and 22.7 percent felt this question did not apply to them. Only 2.8 percent indicated they were dissatisfied with the information given about the billing process. Still, the average rating for this item has dropped from 4.16 to 4.06 during the past two years, which is a significant change in patient satisfaction.

6. Saint Luke's Episcopal Hospital

St. Luke's Episcopal Hospital contracts with Press, Ganey Associates. Inc. for its patient satisfaction data. Press, Ganey provides St. Luke's with quarterly data on the general patient population and HCFA demonstration patients. Approximately 1800 patient satisfaction

questionnaires are mailed out each month to hospital patients.[81] Surveys are mailed typically within a week of discharge.[82]

The St. Luke's survey consists of 80 questions across eleven topics.[83] The survey form also provides space at the end of each section for written patient comments. The survey questions focus on patient attitudes and feelings towards the hospital's facilities, services, and staff. The manner in which staff deliver care is of particular concern to the hospital, based on the number of questions asked regarding this aspect of care. Twenty-one of the 80 questions concern the courtesy[84] with which hospital staff deliver care, including medical, nursing, dietetic, and other ancillary personnel. A substantial number of survey questions also focus on staff efforts to educate patients and their families. Patients are asked to rate the extent to which various members of the hospital staff provided them and the members of their family with needed information on tests treatments, follow-up care, and diet.

Patients are asked to rate each item on the survey using a 1 to 5 scale, where 1 indicates Very Poor, 2 Poor, 3 Fair, 4 Good, and 5 Very Good. For reporting purposes, Press, Ganey converts the 5 point answer scale to a 100 point scale (Very Poor is scored as 0, Poor as 25, Fair as 50, Good as 75, and Very Good 100) to calculate the mean score for each item. According to Press, Ganey, this conversions allows for greater ease of interpretation and enhances the visibility of differences in scores assigned to particular items. A two point difference between scores is considered to be a statistically significant result. Press, Ganey also reports mean scores for each section of the questionnaire. The mean scores for the various sections are averaged to come up with an Overall Hospital Rating. The ratings data presented in this report are drawn from surveys

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81 St. Luke's estimates that 537 patients participated in the HCFA Medicare Bypass Project between June 1, 1993 and May 31, 1994. St. Luke's received 196 surveys back from this population of HCFA demonstration participants, yielding a response rate of 36.5 percent.

82 Different surveys are sent depending on the care a patient received, e.g. emergency room patients receive one survey, labor and delivery patients another, and outpatients a third. St. Luke's has not developed a specific survey for the HCFA demonstration or for its cardiac service patients. This report is based on patient responses to the general inpatient survey. St. Luke's does monitor the patient satisfaction of the demonstration patients separately from the general hospital patient population.

83 The areas of inquiry are: General Experience, Admissions, Room Quality, Meals, Nursing Care, Tests and Treatments, Ancillary Services, Visitors and Family, Medical Care, Discharge, and Overall Rating.

84 "Courtesy" questions are loosely defined as items using the word "courtesy" or items querying the "friendliness," "amount of attention," "treatment with respect," and "concern for comfort" of the patient.

sent to patients discharged from St. Luke's during the second quarter (January to March) of fiscal 1994. The hospital did not provide comparable data for a same period in the fiscal year preceding its entry into the demonstration.

- **Quality of Care/Overall Satisfaction.** St. Luke's queries patients about their perceptions of and satisfaction with the quality of care provided by hospital staff in several ways. Patients are asked to rate the courtesy, attitude, and responsiveness of staff members.[85] Patient responses to this series of questions generally fall in the high 80th and low 90th percentile. HCFA demonstration patients give particularly high marks to admissions (93.9) and business office (94.2) personnel for their courtesy and to nurses (94.8) and operating/recovery room personnel (94.3) for their friendliness. In addition, patients are asked to indicate how well hospital staff treated their family and friends. These questions focus on the courtesy and helpfulness exhibited by members of the hospital staff most likely to interact with family members and friends (e.g. information desk personnel, valet parking) and the extent to which staff encouraged family members to take part in the patient's care. Again, the ratings of both the general population of patients and the demonstration patients are quite strong (e.g., in the high 80s and low 90s) but demonstration patients consistently score these items 3 to 6 points higher.

  St. Luke's also asks patients to indicate their willingness to recommend the hospital to others. Demonstration patients are somewhat more likely (96.2) to refer their friends and relatives to St. Luke's than are the general population (91.0), but both groups can easily be considered an excellent "personal salesforce" for the hospital and its services. The 96.2 score was one of the highest scores given by demonstration patients to any of the items on the questionnaire, indicating their strong satisfaction with the care they received at St. Luke's. The tendency of demonstration patients to assign higher scores to survey items than the general population of patients is evident in the overall hospital rating computed for both groups. In the 2nd quarter of 1994, the overall rating for demonstration patients was 89.1, four points higher than the overall rating for the general hospital population (85.1). It is not know whether the scoring pattern of the two groups is due to a systematic difference in experience or to other factors.

- **Staff.** Questions concerning hospital staff appear in several sections of the survey. Most focus on interpersonal skills (i.e. the demeanor of staff when dealing with patients, concern for the patient's questions and sensitivity to the patient's health problems). In addition, patients are asked to evaluate how informative the nurses, physicians, and ancillary staff were when explaining tests, treatments, medication, equipment used, and providing advice on follow-up care. The survey also asks patients to rate the technical skills of the nursing and ancillary staff but not those of the physician.

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85 Patients are asked to rate the responsiveness and attitudes exhibited by the following labor categories: admissions personnel, custodial/cleaning staff, diet/food preparation personnel, nursing staff, ancillary personnel, medical staff, and billing staff.

- *Medical* -- The St. Luke's survey asks patients four questions concerning physician performance. All four items focus on the physician's caregiving and interpersonal skills. Demonstration patients assigned ratings ranging from 86.2 to 89.8 to these items. These scores are generally one to two points higher than the ratings assigned to these same items by the general population of patients.
- *Nursing* -- These items, roughly 12 in all, focus on the courtesy and promptness of the nursing staff when responding to patient requests, the adequacy of the information provided by nursing staff, the amount of attention paid to personal needs, and technical competence. The range of topics by which St. Luke's measures patient perceptions of the quality of nursing care at the hospital appears wider than it actually is, however. Most questions on the survey actually relate, in one way or another, to the interpersonal skills exhibited by the nursing staff when interacting with patients or their families. One question asks patients to rate the technical skill of the nursing staff and one asks about the overall quality of the nursing care provided by staff, by shift. Demonstration patients consistently rated the nursing care at St. Luke's higher than did the general population of patients (demonstration patient scores for the nursing items ranged from 86.0 to 94.8 and were between three and nine points higher per item than the scores given to the same items by the general population of patients; demonstration patients gave a score of 90 or higher to nine of the 12 items while the general patient population scored only one item -- friendliness of the nursing staff --this high). Nursing staff got their lowest score from demonstration patients for the adequacy of the information they provided regarding tests, treatments, medications, and equipment (score 86.0). The lowest score awarded by the general patient population was for the promptness of the nursing staff in responding to call buttons and requests for assistance (score 80.9).
- *Ancillary* -- There are 23 questions on the St. Luke's survey pertaining to ancillary services. Eight items relate to the courtesy and skill exhibited by staff while performing specific tests and treatments, such as taking blood, starting IVs, taking X-rays, and providing explanations about different tests and procedures. Patients are also asked to evaluate fifteen ancillary services, such as pastoral care, cardiac rehabilitation, the cardiac catheterization lab, cardiac testing, physical therapy, respiratory therapy, social services, the telephone operators, and volunteers. Scores given by demonstration patients and the general population of patients to these items were not significantly different (generally in the high 80s and low 90s and within one to three points of each other). For example, HCFA patients assigned ratings of 90.9 and 91.0 to cardiac rehabilitation and cardiac testing while the general population rated these services at 89.3 and 89.1. The only real areas of difference were in the scores demonstration patients gave to physical therapy (90.7) and to respiratory therapy (89.8), which were roughly 5 points higher that those awarded by the general patient population.

- **Facilities.** The survey asks patients seven questions concerning the adequacy of the hospital's facilities, including how well the equipment in their room worked, whether their room was kept clean, and the general condition and cheerfulness of the hospital.

Demonstration patients generally rated items pertaining to the hospital environment in the mid- to high-80s and their scores were more than four points higher than those for the general patient population.

- **Transitions.** The St. Luke's survey asks a number of questions concerning the admissions and discharge process. As with other items, demonstration patients rated their experience with both processes higher than did the general population of patients. Demonstration patients rated the speed of admissions close to 7 points higher than did the general population of patients and the courtesy of admission personnel roughly 4 points higher.[86] The Discharge section of the SLEH survey addresses four specific issues:
  - whether the hospital and doctors make an effort not to discharge patients from the hospital too soon,
  - the amount of time it takes for patients to actually be discharged once they have been told they can go home,
  - the adequacy of staff efforts to prepare patients to care for themselves following discharge, and
  - the helpfulness and courtesy of business office personnel.

  Again, demonstration patients gave substantially higher scores to these aspects of their care than did the general patient population (differential of 2 to 7 points). The greatest disparity between the discharge experiences of the two groups involved staff preparations for care at home. Demonstration patients gave this aspect of their care a 92.1 rating, while the general patient population gave it a 85 rating. The business office rated high with both groups, receiving the highest score of the four elements (94.2 for discharge patients and 89.7 for general patients). The St. Luke's survey does not specifically address transitions between units, but does ask patients how well they are treated when being transported to and from their rooms and while waiting for X-rays. Scores for both groups are roughly equivalent (in the low 90s in the firs instance and the mid-80s in the second).

- **Patient Education.** The survey contains nine questions regarding the adequacy of staff efforts to provide patients and their family members with information concerning tests, treatments, medications, and equipment. Demonstration patients scored these items two to 10 points higher than the general patient population. Staff efforts to explain dietary restrictions received the lowest point ratings from both groups (78.3 from general patients and 84.0 from demonstration patients). Discharge preparations received the highest score from demonstration patients (92.1, close to 7 points higher than the score award by general patients) while physician efforts to keep family members informed received the highest score from the general patient population (88.1, roughly equivalent to the score given this item by demonstration patients).

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86 The general population of patients rated the speed of admissions 86.5 while demonstration patients gave this aspect of their stay a 93.4 rating; general patients rated the courtesy of admission personnel as 89.9 while demonstration patients rated this aspect of their care at 93.9.

Demonstration patients rated information provided by nurses regarding care at home close to 10 points higher than did the general patient population (91.5 in the first instance and 81.9 in the second). Demonstration patients also rated the information provided to members of their family by hospital staff in general higher (92.0) than did the general patient population (85.6). The experiences of both groups were roughly equivalent for the remaining items in this category (i.e., items pertaining to the adequacy of the patient education TV channel, information provided by auxiliary personnel, etc. were scored in the mid-80s by both groups).

- **Demonstration Awareness.** Because the hospital uses the same instrument to collect information from demonstration patients as it uses with its general inpatient population, the question of whether patients participating in the demonstration are aware of their status is not addressed.
- **Billing.** There are no questions on the St. Luke's survey specific to the hospital's billing process.

7. Methodist Hospital of Indiana

Methodist Hospital routinely collects information on patient satisfaction with the hospital's facilities and services but did not provide any information on the focus, scope, or the results of this effort for inclusion in this report. Hospital representatives cited the proprietary nature of the information in announcing their decision to withhold the information.

B. Hospital Physician Satisfaction Surveys

Two of the hospitals, SJMH and BUMCH, have developed surveys[87] to elicit information from community physicians regarding:

- Factors that influence their selection of physicians and hospitals when referring patients for specialty services;
- Their perception of the hospital and its services, the skills and practice patterns of the cardiologists, and the skills and practice patterns of the cardiovascular surgeons;
- The amount and nature of communication they would like to have with specialty providers caring for their patients;
- Their referral patterns;
- Their perceptions of how responsive hospital staff are to the care needs of their patients, and

87 A crosswalk comparison of survey questions asked by each institution is provided in Appendix C.

- Their satisfaction with the services the hospital, the cardiologists, and the cardiovascular surgeons provide to referring physicians and their patients.

One of the hospitals, SVHMC, periodically elicits information regarding the adequacy of the hospital's facilities and equipment, staff, and services from physicians who have admitting privileges.

1. Saint Joseph Mercy Hospital

In 1993, the Cardiovascular and Thoracic Surgeons of Ann Arbor conducted a survey of family practitioners and internists who refer patients to the Michigan Heart and Vascular Institute based at St. Joseph Mercy Hospital. The survey consisted of 26 questions to which physicians were asked to provide scaled responses (using a 3 point scale) to statements, yes/no answers, and written comments. None of the questions elicited information regarding physician knowledge of the demonstration or the extent to which HCFA's designation of St. Joseph as a Medicare Heart Bypass Center had served to alter past referral practices.

The survey covered several aspects of the referral relationship between cardiovascular and thoracic surgeons and primary care physicians. Seven questions asked about the referral process (i.e. who within the physician's practice actually refers patients on for care when surgery is being considered, whether the physician refers patients to only one cardiac surgery group or many, and factors that influence the physician's choice of hospital). Six questions elicited information on the referring physician's level of satisfaction with the surgical care, nursing staff, and office staff within the Institute. Three questions asked physicians their opinion of specific surgeries and interventions provided by the surgeons (i.e., whether they were state-of-the-art) and to suggest additional surgical services the group should offer, if any. The survey also asked physicians to suggest ways in which the process used to notify them of their patient's status could be improved and to indicate whether they would like to see their patients post-operatively.

SJMH sent out approximately 400 surveys to the referring physicians and received only 67 responses,[88] yielding a response rate of 16.8%. Due to the limited number of surveys returned,

[88] Referring physicians criticized the survey instrument as too lengthy (the survey was four pages in length). Physicians also did not like the survey format. The questionnaire was not divided into sections and, as a result, physicians had difficulty

the Cardiovascular and Thoracic Surgeon's office chose not to analyze the results of the survey and instead shared some of the anecdotal comments with their physicians. Respondent comments regarding steps which the Cardiovascular and Thoracic Surgeons should take to improve their relations with referring physicians fell into two primary categories; respondents felt that the surgeons needed to provide:

- Patients and their families with more postoperative teaching and discharge directions, and
- Referring physicians with information regarding their patients more quickly following discharge, particularly information pertaining to patient status and post-discharge care needs.

2. Boston University Medical Center Hospital

BUMCH periodically conducts a mail survey of physicians who refer patients to its cardiology and cardiothoracic surgery services. The survey consists of 25 questions, 17 pertaining to the physician's practice, including his or her referral patterns, 7 regarding the physician's assessment of and satisfaction with the hospital's services, and one asking for general comments. Results are available for key indicators from the 1991 (n=127) and 1992 (n=136) surveys.

Most respondents indicated they were satisfied with the promptness with which BUMCH schedules patient procedures following referral. Referring physician satisfaction with this aspect of the cardiothoracic surgery services improved substantially between 1991 and 1992.[89] Respondents in both years were less satisfied with the timeliness and completeness of the communications they received from cardiologists and cardiothoracic surgeons regarding their

identifying the topics of greatest interest to the surgeons. Referring physicians also found the multiple response formats confusing and the large number of written comments (12 of the 26 questions asked for written comments) to be too time-consuming.

89 Of those responding in 1992, 78 percent indicated they were satisfied or very satisfied with the promptness with which cardiothoracic surgery services are scheduled, up from 69 percent the previous year.

patients[90] and with the efforts of cardiologists and surgeons to educate their patients about procedures and continuing care needs following discharge.[91]

Most respondents indicated that they would like to receive a post-discharge treatment summary letter from the cardiologist or surgeon, as well as a copy of the discharge summary prepared for the patient's hospital record. Only a few respondents (i.e., 25 percent or less) indicated they would like to receive calls from the cardiologist or surgeon at key points in their patient's hospitalization (such as at admission or prior to discharge).

3. St. Vincent Hospital and Medical Center

St. Vincent does not routinely solicit information from referring physicians regarding the adequacy of the hospital's facilities and the services provided by staff. The hospital does, however, elicit feedback on the quality of its services from the hospital's medical staff. The survey consists of 39 questions; most (n=28) ask the physician to rate the skills and abilities of various segments of the hospital staff (i.e., nursing, administration, diagnostic technicians) and the adequacy of the hospital facilities and equipment.[92] All but three of remaining questions elicit information on the physician and his or her practice. The last three questions ask the physician to provide written comments regarding positive and negative experiences he or she has had while practicing at SVHMC.

The SVHMC medical staff rate the overall quality of the care provided at the hospital as very good to excellent (rating roughly 4.2 in both 1992 and 1993). In addition, nearly two-thirds of respondents indicated they would definitely use St. Vincent's themselves if they needed care. The hospital used multiple regression to identify the factors on which physicians based their overall quality ratings. Of the eight items that emerged, physicians gave St. Vincent high scores (i.e., an average score of 4.00 or better) on only two: medical staff management of emergencies and the concern and caring for patients exhibited by the nursing staff. The low scores given to the

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90 Fifteen percent of respondents in 1992 indicated they were dissatisfied or very dissatisfied with the timeliness and completeness of the communications they received from cardiothoracic surgeons, up from 9 percent in 1991. Ten percent of respondents indicated their dissatisfaction with cardiology communications in 1991 while 14 percent did so in 1992.

91 Roughly 50 percent of respondents in 1992 indicated they were satisfied with the patient education provided by cardiologists and surgeons, down from 54 percent in 1991.

92 The rating scale provided offers the following choices: Excellent, Very Good, Good, Fair and Poor.

remaining six factors suggests areas where SVHMC may need to improve its services. These areas are: administrative staff skills, stability of the nursing staff, adequate nurse staffing on patient care units, discharge procedures, transcription services, and the availability of state-of-the-art medical equipment.

C. National Evaluation of Participant Satisfaction

The purpose of the participant satisfaction component of the Medicare Heart Bypass Center Demonstration is to provide HCFA with the information it needs to determine whether lowering the amount paid for CABG services and altering the way in which hospitals and physicians are reimbursed for these services in any way compromises the care provided to Medicare beneficiaries. The information presented above provides HCFA with only a limited view of patient perceptions and reactions to the care provided by the demonstration hospitals. The satisfaction data the hospitals are collecting from patients are useful for monitoring whether patients opinions of the individual sites change over time. This knowledge, when combined with qualitative information supplied by the sites, can also provide some useful insights as to institution specific factors that may influence patient opinion.

The site specific monitoring, while useful, does not support the development of the composite picture of beneficiary and provider response to the demonstration necessary to fully evaluate the program's impact. For example, the sites do not routinely collect information on how their facilities and services are perceived by the general public or key subgroups, such as Medicare beneficiaries. Nor do the sites collect information looking at the extent to which the experiences and opinions of persons receiving care at their facilities differ from the experiences of persons who receive care elsewhere. In addition, the sites do not collect information regarding their services from a key observer of the demonstration process -- community based physicians.

HCFA needs to hear from Medicare beneficiaries undergoing bypass surgery both at the seven demonstration sites and at competing hospitals in the demonstration markets, as well as their referring physicians, regarding the factors that led to the selection of the hospital at which the beneficiary's bypass was performed and the qualitative features of the care provided before it can fully evaluate the viability of package pricing as a method of payment for high volume, high cost services. This data must be collected using common protocols and data collection

instruments so that the experiences and outcomes of the two beneficiary groups (demonstration, non-demonstration), as well as the views of the two doctor groups (demonstration site referral, non-referral) can be compared.

HCFA plans to conduct a telephone survey of Medicare beneficiaries and community physicians in the seven demonstration markets during the last year of the demonstration to determine whether there are qualitative differences, from the consumer's point of view, in the care available through the demonstration sites. HCFA also plans to gather information regarding factors that influence patient and physician choice of site. Forty patients from each of the demonstration sites, randomly selected from a list of CABG recipients, will be called by a member of the evaluation team. Interviewers will ask these patients a series of questions to elicit their views regarding the demonstration, the quality of the care received while in the hospital, as well as their views of the hospital and its facilities. The evaluation team will also call an additional 40 patients, identified through MedPAR files, who received CABGs at other hospitals located in the same market areas as the demonstration sites. Information from this group of patients will be used to compare the experience of patients at the demonstration sites to the experience of patients who receive their bypass at other institutions.

The survey instruments will include questions pertaining to patient perceptions of the hospital where they received their CABG surgery and the reasons why that hospital was selected as the site where they would have their CABG surgery. Examples of areas of inquiry include:

- **Selection of Hospital.** The survey will ask beneficiaries about the factors that influenced their hospital selection. Of particular interest are the following:
  - *Physicians* -- the extent to which the respondent's physicians influenced the decision to select a specific hospital.
  - *Circumstances* -- the circumstances under which the procedure was performed (e.g., were the circumstances urgent? was the beneficiary hospitalized when the decision for surgery was made?, etc.)
  - *Hospital-related factors* -- the importance of other factors, such as the hospital's reputation, location, accessibility, availability of required services, etc. The survey will also address the impact of the hospital's marketing efforts.
  - *Financial Issues* --the importance of price in a patient's selection of a hospital. Questions will focus on components of the price (e.g., deductibles, copayments).

The survey also will include questions related to income, availability of supplemental insurance, and other factors that might influence beneficiaries' price sensitivity.

- **Program Characteristics.** The survey will address specific characteristics of the demonstration. This section of the survey may need to be tailored to specific hospitals. Some of the areas to be evaluated are the following:
  - *Benefits* -- the respondent's impression of additional services offered through the demonstration. The survey will address supplemental benefits offered by the hospital for demonstration participants, for example, discounted lodging and meals for family members.
  - *Single Billing* -- the respondent's impression of the single bill system. The survey will specifically address whether a hospital staff member explained the single billing system, if the beneficiary understood the system, and whether or not the beneficiary prefers this system.
  - *Quality of care/overall satisfaction* -- the respondent's perception of the quality of care and services and overall satisfaction. Specifically this will address if the patient believes that they received a different quality of care as the result of being in a demonstration. In addition, the patient will be asked to assess the level of physical function achieved subsequent to surgery.

In addition to these specific questions, the survey will ask the beneficiary for the name of the referring physician. As a follow-up to the beneficiary survey, 20 physicians who refer patients to each of the demonstration sites will be surveyed as well as 20 physicians in each of the demonstration markets who regularly refer patients to other providers.[93] The point of this survey is to identify factors that influenced physician choice of hospitals, with a particular emphasis on hospital marketing efforts and price factors. With regard to quality, the survey will query the referring physicians concerning delays in hospitalization, pre-admission communication with the demonstration site, perceived quality of care delivered, post-discharge communication with the demonstration site, post-discharge gaps in care, and continuity of care after discharge.

The patient and physician satisfaction data will be used to determine whether the demonstration achieved its overall goals without compromising the quality of care provided to Medicare beneficiaries. If demonstration hospitals alter the content of their care in ways that compromise the perceived quality of their services, beneficiaries may become less willing, over

93 The sample will include a total of 280 physicians, 140 who refer to demonstration sites (20 physicians at each of 7 sites) and 140 who routinely refer patients to other providers (20 physicians in each of 7 markets).

time, to receive care a the designated Medicare Bypass Centers. Information on patient and physician views of and satisfaction with the demonstration will be combined with information on patient outcomes, bypass center costs, the marketing activities of each of the demonstration sites, physician referral patterns, and CABG volume growth to make this determination.

VII. CONCLUSION

The seven hospitals participating in the Medicare Heart Bypass Center Demonstration Project have all developed and are in the process of implementing marketing plans for their CABG surgery programs. These plans, along with the implementation efforts that have been undertaken thus far, are primarily focused on promotional strategies designed to increase community awareness of their institutions and the benefits associated with use of their facilities for CABG surgery. The hospitals are using personal sales, promotional activities, and various media (e.g., brochures, direct mail, newspaper articles) to reach specific segments of the population with information about the hospitals, their heart programs, and the demonstration. In addition, the participating hospitals have developed and implemented a joint public relations program designed to build awareness of the demonstration among national business and opinion leaders as well as to inform the general public about the demonstration and its contribution to cost containment efforts.

The hospitals have focused much less attention on other aspects of an integrated, comprehensive marketing program (e.g., consumer needs and wants, product attributes, price, etc.). A clear exception is the effort the hospitals have put into changing the way in which they produce their products. Each of the demonstration hospitals has spent a considerable about of time and resources redefining the content and duration of services provided in conjunction with CABG surgery (i.e., procedures that fall within DRG 106 and DRG 107) at their institution. The hospitals instituted these changes in an effort to increase the efficiency with which they produced their services and lower their production costs. The stimulus for these changes are as likely due to market forces as to the demonstration, however, as three of the seven hospitals initiated efforts to redesign the processes through which they produce a unit of service before they entered the demonstration (although they -- as do all the demonstration sites -- continue to look for additional opportunities to shorten length of stay, reduce costs, and increase efficiency with regard to their CABG surgery services).

The full impact of the hospitals' efforts to stimulate interest in their institutions and the products and services available to Medicare beneficiaries under the demonstration may not be

known for some time. The reasons for this situation are twofold. First, there may be a considerable lag between the initiation of the hospitals' marketing communication programs and any resulting change in the care seeking behaviors of individuals requiring CABG surgery within the target markets. In order to increase the number of individuals electing to receive CABG surgery at their facilities, each of the demonstration hospitals must:

- Increase the hospital's name recognition within key segments of their target market, as well as public awareness of their designation as a Medicare Heart Bypass Center (i.e., **build awareness**);
- **Increase knowledge** of the hospital, the quality of the care it provides (especially through its cardiology and cardiac surgery services), and key attributes of the packages of services available under the Medicare Heart Bypass Demonstration among the general population, potential patients, and referring physicians;
- Alter the ways in which some portion of the general public, potential patients, and referring physicians perceive the hospital (i.e., **change** prevailing **attitudes, and preferences**); and
- **Alter established behavior patterns** such that when confronted with a situation in which hospital services are required (such as diagnostic cardiac services and CABG surgery) the referring physician and the potential patient select the demonstration hospital.

Hospital promotional activities undertaken during the early months of the demonstration may not produce any demonstrable results until the third year of the demonstration or beyond. The marketing communication and promotional activities associated with moving a person through the complex cognitive, attitudinal, and behavioral stages described above take time to plan and execute. Moving a member of the target audience who is at the first stage of the framework to the last stage involves exposure to multiple messages over an extended period of time once the communications program is fully implemented. There is often a substantial lag between exposure to key messages and any resulting change in knowledge, attitudes, beliefs, and behaviors. The hospitals' communications campaigns will have to be in place for a sufficiently long period of time and reach a substantial portion of the population before the hospitals are likely to see their CABG volumes increase beyond the level produced by secular changes in the composition and size of their respective markets.

The lack of a specific, identifiable, comprehensive marketing communications strategy focused exclusively on the demonstration is the second reason why it may be difficult, if not

impossible, to determine the extent to which the participating hospitals are able to use their designation as a Medicare Heart Bypass Center to increase patient volumes. While each of the demonstration sites has developed a marketing communications plan for the demonstration, none of the hospitals are promoting the demonstration as a stand-alone product. With few exceptions, the hospitals incorporate messages concerning the demonstration into marketing communications programs focusing either on the entire hospital or a particular line of business, such as a Heart Institute.

What is also clear is that the hospitals are as interested in using the demonstration to improve their general standing within their respective communities as they are in using it to increase the number of CABG surgeries performed at their facilities each year. The hospitals interest in using the demonstration to increase patient volumes across all patient groups (Medicare and non-Medicare) and all services contrasts sharply with HCFA's interest in the hospitals' ability to pull business from their competitors, particularly higher priced competitors, and to increase the number of Medicare beneficiaries who elect to receive their CABGs under the demonstration. The hospitals may achieve their strategic objective (i.e., increasing patients volumes overall) with only modest, or no, change in the number of Medicare CABG procedures performed at their institutions each year. The hospital's attainment of their strategic objectives may go unnoticed if there is no corresponding increase in CABG volume since the evaluation is designed only to capture changes in CABG volumes (both within and outside the demonstration) at each of the participating hospitals, not broader shifts in patient volumes.

While the full impact of the hospitals' market communications efforts will not be known for some time, data supplied by the hospitals indicate that the total number of CABG procedures performed at their facilities is higher than the number performed at the sites prior to their entry into the demonstration. Most of the increase at the original sites (when taken together as a group) occurred during the first year of the demonstration -- far too early for the increases to be attributable, in any major way, to their designation as a Medicare Heart Bypass Center or to their efforts to promote their programs and services under the demonstration. The number of CABG surgeries performed at the original sites also increased during the second year of the demonstration, but at a slower pace.

Even though CABG volumes are up overall, the sites have not contributed equally to these gains. The rate of growth varies by site, and some have lost volume. Only three of the four original sites have experienced gains in CABG volumes, despite the fact each is located in an expanding market, at least within the Medicare population.[94] The number of CABG surgeries performed at the fourth site declined sharply during the second demonstration year, after holding nearly constant in the first. Two of the original sites experienced strong growth in the first year, but realized more modest gains in the second. Volumes at the fourth site increased by only a slight margin during the first year, but rose by a substantial margin in the second.

Gains in CABG surgery volume at the original sites have occurred both within and outside the demonstration. First year growth was stronger under the demonstration than outside the demonstration, but this was due largely to the fact two of the four hospitals saw their non-demonstration volumes drop during this period. Non-demonstration volumes rose at the other two sites by a wider margin than did volumes under the demonstration. Second year gains at the hospitals as a group were almost equally divided between demonstration and non-demonstration patients. One of the hospitals experienced declines in both groups, two had larger gains under the demonstration, and the fourth experienced larger gains outside the demonstration.

Volume changes at the expansion sites are harder to characterize because only two of the three hospitals have provided baseline data and because of the short amount of time the demonstration has been in operation at these sites. CABG surgery volumes during the first nine months of demonstration participation at one of the two expansion sites are up over the comparable baseline period. CABG volumes during the first nine months of demonstration participation at the other site are slightly lower (roughly two percent) than during the comparable baseline period. Both hospitals performed fewer bypass surgeries under the demonstration during

94 The total number of CABG surgeries (i.e., DRG 106, DRG 107, and some cases in DRG 108) performed in these markets increased by roughly 6 to 13 percent, depending on the market. Only one of the sites captured a significant portion of the increase within the market, however. Two of the sites picked up some of the gains within their markets, but much of the increase went to other institutions. Data also suggest there has been some redistribution of CABG surgery volume within the markets since the start of the demonstration. Some hospitals in the demonstration markets have experienced substantial declines in Medicare CABG surgeries. What is unclear is whether the demonstration sites have benefited in any major way from these shifts. (See "Comparative Analysis of Demonstration Versus Competitor Hospital Volumes" in Health Economics Research, Medicare Heart Bypass Center Demonstration Final Report, December 1994.)

their first nine months of demonstration participation than they performed on a comparable population of Medicare beneficiaries (i.e., bypass surgeries coded as DRG 106 or 107) during the baseline period. Most of the CABG surgeries performed at the three expansion sites fall outside the demonstration, although the age distribution of the CABG patient population at these sites is roughly equivalent to the baseline period. This suggests that many of the CABG procedures performed on Medicare beneficiaries during the early months of the demonstration fall under DRGs not included in the demonstration.

APPENDIX A

Table A-1

Total CABG Volume by Hospital by Calendar Quarter[a]

Demonstration Sites	90:Q3	90:Q4	91:Q1	91:Q2*	91:Q3	91:Q4	92:Q1	92:Q2	92:Q3	92:Q4	93:Q1	93:Q2 *	93:Q3	93:Q4	94:Q1	*Total*
SJMH	173	178	148	178	158	182	172	185	209	189	218	211	222	229		*2652*
OSU	57	64	59	75	82	56	69	74	78	67	71	87	74	69		*982*
BUMCH	128	133	127	124	115	173	125	98	114	108	102	124	92	121		*1684*
SJHA	321	360	373	408	390	433	444	388	400	431	447	438	412	429		*5674*
SVMH									267	259	252	272	295	291	245	*1881*
SLEH									312	293	316	309	319	269	317	*2135*
MHI												292	306	346	354	*1298*
TOTAL	*679*	*735*	*707*	*785*	*745*	*844*	*810*	*745*	*1380*	*1347*	*1406*	*1733*	*1720*	*1754*	*916*	*16306*

[a] The number of CABG surgeries presented in this table, by calendar quarter, for each of the participating hospitals, differ slightly from the numbers presented in similar tables contained in a second final report prepared by Health Economics Research for HCFA as part of this evaluation. The differences in quarter-to-quarter volume reflected in the various tables contained in these reports are primarily due to differences in the decision rules used to assign cases to calendar quarters (i.e., date of surgery vs. date of admission, etc.) and to differences in the universe of patients on which the analyses are based (e.g., the information presented in Table A-2 of this report is based on data provided by the participating hospitals and is limited to DRGs 106 and 107 while the information presented in the Heart Bypass Surgery Trends report is based on MedPAR data and includes DRGs 106, 107, and 108). Despite the discrepancies in the numbers themselves, the reports are consistent in their characterization of the relative size of the CABG demonstration programs at the participating hospitals and the extent to which the number of CABGs performed under the demonstration has changed since the project began.

Table A-2

Demonstration CABG Volume by Hospital by Calendar Quarter

Demonstration Sites	90:Q3	90:Q4	91:Q1	91:Q2 *	91:Q3	91:Q4	92:Q1	92:Q2	92:Q3	92:Q4	93:Q1	93:Q2 *	93:Q3	93:Q4	94:Q1	*Total*
SJMH	63	68	64	82	64	87	82	81	84	91	98	116	103	116		*1199*
OSU	24	25	29	32	34	22	31	33	32	33	31	44	34	33		*437*
BUMCH	48	63	56	51	51	76	55	42	63	35	42	58	48	56		*744*
SJHA	96	140	157	173	142	160	188	151	137	150	169	194	161	159		*2177*
SVMH									134	132	116	126	77	68	64	*717*
SLEH									142	134	175	144	132	102	134	*963*
MHI												68	21	54	52	*195*
TOTAL	*231*	*296*	*306*	*338*	*291*	*345*	*356*	*307*	*592*	*575*	*631*	*750*	*576*	*588*	*250*	*6432*

Table A-3

Non-Demonstration Patient CABG Volume by Hospital by Demonstration Quarter

Demonstration Sites	90:Q3	90:Q4	91:Q1	91:Q2*	91:Q3	91:Q4	92:Q1	92:Q2	92:Q3	92:Q4	93:Q1	93:Q2*	93:Q3	93:Q4	94:Q1	*Total*
SJMH	110	110	84	96	94	95	90	104	125	98	120	95	119	113		*1453*
OSU	33	39	30	43	48	34	38	41	46	34	40	43	40	36		*545*
BUMCH	80	70	71	73	64	97	70	56	51	73	60	66	44	65		*940*
SJHA	225	220	216	235	248	273	256	237	263	281	278	244	251	270		*3497*
SVMH									133	127	136	146	218	223	181	*1164*
SLEH									170	159	141	165	187	167	183	*1172*
MHI												224	285	292	302	*1103*
TOTAL	***448***	***439***	***401***	***447***	***454***	***499***	***454***	***438***	***788***	***773***	***774***	***983***	***1144***	***1166***	***666***	*9874*

APPENDIX B

QUESTIONS ASKED ON THE PATIENT SATISFACTION SURVEYS

Exhibit B
Questions Asked on Patient Satisfaction Survey[a]

QUALITY OF CARE/ SATISFACTION	Boston University Medical Center	Ohio State University Hospital	St. Joseph's Hospital - Atlanta
Overall Quality	• I would return to or recommend the University Hospital for surgery.	• I would return to The Ohio State University Hospitals for care. • I would recommend The Ohio State University Hospitals to family and friends. • How satisfied were you with your overall hospital stay? • Did you have any problems or concerns during your hospitalization? • My concerns were resolved to my satisfaction. • I felt safe while in the hospital.	• If you needed to use similar services in the future and the choice were yours, would you be very likely, somewhat likely, or not likely to choose St. Joseph's Hospital of Atlanta? • If a friend or family member needed to use a similar health service, would you be very likely, somewhat likely, or not likely to recommend St. Joseph's hospital? • Overall, how satisfied were you with the services you received at St. Joseph's Hospital? • What was it that you found to be least satisfactory about your stay at St. Joseph's -- or what do you think they could have improved upon? • What was especially pleasing about your hospital stay -- or the thing that was most positive?
Daily Care	• I received prompt attention to help adequately manage my pain. • I was able to obtain adequate periods of rest.	• I was satisfied with how well my pain was controlled in the hospital. • The amount of emotional discomfort I experienced was: much less than I expected, less than I expected, about what I expected, more than I expected, much more than I expected. • The amount of physical discomfort I felt was: much less than I expected, less than I expected, about what I expected, more than I expected, much more than I expected.	• I did not have to wait a long time before receiving services like x-rays and lab tests.
Family	• My family/friends were kept informed about my condition during my hospital stay.	• My family received adequate information concerning my medical condition from my doctor.	• My family and friends were kept informed about my condition and treatment. • My family and friends were treated well by hospital personnel.
Communication	• I felt involved in decisions about my care. • I knew what to expect in my hospital daily routine.		

[a] Methodist Hospital of Indiana refused to release instrument.

Exhibit B (continued)
Questions Asked on Patient Satisfaction Survey[a]

QUALITY OF CARE/ SATISFACTION	St. Joseph's Mercy Hospital	St. Vincent's Hospital	St. Luke's Episcopal Hospital
Overall Quality	• I would recommend SJMH in Ann Arbor, Michigan to my friends and family for cardiac services. • How would you rate your overall hospital experience?	• Overall, how satisfied were you with the care and treatment you received at St. Vincent Hospital? • How satisfied are you that your general health was (or will be) helped by the treatment/test received during this hospitalization? • Thinking of your entire stay, what stands out as the most positive? • Thinking of your entire stay, what stands out as the most negative? • Overall, how could your hospital stay have been improved? • • •	• Likelihood of your recommending St. Luke's to others. • Overall cheerfulness of the hospital • Overall cleanliness of the hospital • If there is someone who was especially helpful during your stay, please describe:
Daily Care		• Were you bothered by noise during your stay?	• Scheduling of tests and treatments to allow for adequate rest and sleep.
Family	• My family was treated courteously and kept comfortable in Surgical Intensive Care. • The visiting hours for Surgical Intensive Care were flexible enough to meet my family's needs.	• Extent to which family was informed about surgical care. • Nurses courtesy/helpfulness to family and visitors	• Information given your family about your condition and treatment • How informative the physician was in dealing with your family • Courtesy of the people at the information desk • Visitors' rating of the hospital cafeteria. • Courtesy and helpfulness of the valet parking staff • Courtesy and helpfulness of the security staff • Adequacy of visiting hours • Accommodations and comfort for visitors • Nurses' attitude and comfort for visitors How well your family was encouraged to participate in your care

[a] Methodist Hospital of Indiana refused to release instrument.

Communication - General		Amount of communication by doctor with me and my family	

Exhibit B (continued)
Questions Asked on Patient Satisfaction Survey[a]

STAFF	Boston University Medical Center	Ohio State University Hospital	St. Joseph's Hospital – Atlanta
Physician	• The physicians in the SICU were professional and courteous. • The physicians on 6 West were professional and courteous.	• The doctors in charge of my care treated me with: dignity and respect, responsiveness, courtesy, sensitivity. • When I saw my doctor he/she seemed to have plenty of time for me. • I was satisfied with the number of times I saw my doctor during my hospitalization • My doctor spoke in terms I understood. • The doctors explained what was happening to me and why. • I felt comfortable asking my doctor questions. • Overall, how satisfied were you with the quality of care you received from your doctor? • My doctor made me feel safe and secure. • Determining which doctor was in charge of my care was difficult	• The doctors were concerned for my well-being. • The doctors spent enough time with me. • Overall, I was satisfied with the quality of treatment I received from the doctors while in the hospital. • The doctors were skilled.

[a] Methodist Hospital of Indiana refused to release instrument.

Exhibit B (continued)
Questions Asked on Patient Satisfaction Survey[a]

STAFF			
	St. Joseph's Mercy Hospital	St. Vincent's Hospital	St. Luke's Episcopal Hospital
Physician	•	• Concern and caring of doctor • The attention given to my health condition • Doctor's respect for my needs as a patient.	• Physician's concern for your questions and worries • Amount of time your physician spent with you • How well the physician kept you informed about treatments
	• I had enough time to talk with my surgeons about my surgery. • The surgeon spent as much time with me as I needed. • The surgeon spent enough time with my family answering their questions and giving them info.	• Overall, how was the care you received from your physician(s)?	
	• The surgeon(s) explained things to me in words I could understand. • I felt free to ask the surgeons questions.		
	• I had confidence in the skill of my surgeons.		
	• My surgeon discussed my case with my family doctor.		
	• My surgeon and the nurses in the surgeon's office provided the necessary follow-up care after I went home from the hospital.		

[a] Methodist Hospital of Indiana refused to release instrument.

Exhibit B (continued)
Questions Asked on Patient Satisfaction Survey[a]

STAFF (CONTINUED)	Boston University Medical Center	Ohio State University Hospital	St. Joseph's Hospital -- Atlanta
Nurse	• The nurses in the SICU were professional and courteous. • The nurses on 6 West were professional and courteous.	• My nurses treated me with dignity and respect, responsiveness, courtesy, sensitivity. • My nurses told me what was happening to me and why. • I felt comfortable asking my nurses questions. • I was satisfied with the number of times I saw my nurses during my hospitalization. • My nurses seemed to have enough time for me. • In general the quality of nursing care was excellent during each of the following shifts. • Overall, how satisfied were you with the quality of care you received from your nurses?	• The nurses responded to my needs satisfactorily when called. • I felt the nurses who took care of me were genuinely concerned about me. • The nurses were knowledgeable about my condition and treatment • The nurses spent enough time with me. • Overall, I was satisfied with the quality of treatment I received from the nurses while in the hospital. • The same nurses cared for me throughout my hospital stay. • The nurses were skilled.

[a] Methodist Hospital of Indiana refused to release instrument.

Exhibit B (continued)
Questions Asked on Patient Satisfaction Survey[a]

STAFF (CONTINUED)	St. Joseph's Mercy Hospital	St. Luke's Episcopal Hospital	St. Vincent's Hospital
Nurse		• Friendliness of the nurses	• Compassion and kindness of nurses
		• Promptness in responding to the call button and your requests for assistance	• Nurses responded to my needs in a reasonable time
			• Extent to which my questions were answered
	• The ICU nurses kept me informed about my care. • The nurses told me what to expect prior to treatment or tests. • I felt information was passed along to all the nurses caring for me.	• Adequacy of information the nurses gave you about tests, treatments, medications, and equipment	• Nurses skill and knowledge
		• Amount of attention paid to your special or personal needs	
	• The nurses kept me informed about my care. • The nurses kept my family informed about my care. • The nurses were concerned about keeping me as comfortable as possible. • The nursing staff in Surgical Intensive Care kept my family informed about my care.	• Degree to which nurses treated you with respect and dignity	• Nurses respect for my privacy
		• Technical skill of the nurses in providing your care	
	• I felt comfortable asking the nurses for the help I needed.	• Evaluate the overall nursing care you received on the following shifts: Days, 7 AM-3PM Evenings, 3 PM-11PM Nights, 11 PM-7AM	• Overall quality of nursing care
	• The nurse clinicians (from the surgeon's office) were available to answer my questions and explain things when I needed them. • When I needed a nurse, a nurse was readily available. • When I needed a nurse in ICU, a nurse was readily available. • The nursing staff in Surgical Intensive Care was available to answer my family's questions and provide information.	• Evaluate the overall nursing care you received on the weekend (if applicable) • If you were in a critical care unit during your stay (ICU of CCU), please comment on the nursing care you received there.	• How much nurses helped me feel physically comfortable
	• I had confidence in the skill of the nurses in Surgical Intensive Care. • I had confidence in the skill of the nurses in ICU. • I had confidence in the skill of the nurses in Unit 2000.		

[a] Methodist Hospital of Indiana refused to release instrument.

Exhibit B (continued)
Questions Asked on Patient Satisfaction Survey[a]

STAFF (CONTINUED)	Boston University Medical Center	Ohio State University Hospital	St. Joseph's Hospital -- Atlanta
Admissions/ Emergency		• The admitting/ emergency department staff was courteous/ responsive. • Did the staff keep you updated on how long your wait would be?	• The registration and admissions personnel were courteous and caring. • I was pleased with the care I received in the emergency room.
Other	• There was someone available on staff to talk about my personal concerns.	• The medical students involved in my care were courteous. • The medical students involved in my care treated me with dignity and respect. • I was satisfied with the public information staff. • The person(s) helping me really cared about my situation. • Is there anyone at University Hospitals who made your visit a little more pleasant? • I was satisfied with the volunteers. • I was satisfied with the pastoral care. • I was satisfied with the EKG service. • I was satisfied with the laboratory. • I was satisfied with the x-ray/radiology. • I was satisfied with the respiratory therapy. • I was satisfied with the social work. • I was satisfied with the operating room. • I was satisfied with the recovery room. • I was satisfied with the unit coordinator.	• My family and I benefited from the chaplain's support. • I was satisfied with the way laboratory technicians drew blood samples. • I was satisfied with the way my x-ray was handled. • I was pleased with the way I was treated in the holding area before surgery. • I was pleased with the way I was treated in the recovery area afterwards. • The people in the ICU/CCU were friendly and caring. • Housekeeping personnel were courteous.

a Methodist Hospital of Indiana refused to release instrument.

Exhibit B (continued)
Questions Asked on Patient Satisfaction Survey[a]

STAFF (CONTINUED)	St. Joseph's Mercy Hospital	St. Vincent's Hospital	St. Luke's Episcopal Hospital
Admissions/ Emergency		• Courtesy of staff in admitting • Courtesy of transportation escort • Waiting time to get a room	• Courtesy and helpfulness of admissions personnel
Other	• My family members were treated courteously by the hospital staff.	• How well my spiritual needs were met (sisters, priests, ministers, brothers, lay ministers) • Support from social workers • Helpfulness of volunteers • Skill/courtesy of person who drew blood • Courtesy of cleaning attendants	• How well the staff (all staff) respected your personal and confidential information • Staff concern for your privacy • • Staff sensitivity to the inconvenience that health problems and hospitalization can cause • Cardiac catherization lab • Cardiac rehabilitation • Cardiac testing (EKG, stress tests, etc) • Chaplains • Nuclear Medicine • Operating room/Recovery room personnel • Patient education/TV channel • Patient Services representatives • Physical/Occupational Therapy • Respiratory Therapy • Social Services • Staff who transported you to and from your room • Telephone operator • Volunteers • Other (please specify) • How well was your blood taken (quickly, little pain, etc.) • Courtesy of the person who took your blood • How well IVs were started (quickly, little pain, etc) • Courtesy of the nurses who started the IV • Length of time you had to wait in the X-ray department • X-ray staff concern for your comfort

[a] Methodist Hospital of Indiana refused to release instrument.

Exhibit B (continued)
Questions Asked on Patient Satisfaction Survey[a]

FACILITIES	Boston University Medical Center	Ohio State University Hospital	St. Joseph's Hospital -- Atlanta
Hospital-General		• Overall, I found the hospital environment to be: clean, comfortable, unfriendly, homey, noisy.	
Room		• My room was: clean, comfortable, noisy, unfriendly • I was satisfied with housekeeping.	
Food		• My meals were: appetizing, served at the right temperature, served by courteous staff, served by responsive staff • I was satisfied with nutrition and dietetics.	• The quality and taste of the food was acceptable to me. • The food was served to me at the right temperature. • I was served the items I had selected from the menu.

TRANSITIONS	Boston University Medical Center	Ohio State University Hospital	St. Joseph's Hospital -- Atlanta
Admission		• How were you admitted to University Hospitals? • The admitting process was handled efficiently.	
Transfer		• I was satisfied with the patient transportation.	
Discharge		• After I got home, I felt I could have benefited from staying in the hospital longer. • The hospital effectively coordinated my home care.	

CHOICE OF HOSPITAL	Boston University Medical Center	Ohio State University Hospital	St. Joseph's Hospital -- Atlanta
Influences		• The most significant factor in my choice to come to OSU hospitals was:	
Decision maker			• Who decided which hospital you would be admitted to? Did you decide, did your doctor decide, was it a joint decision or did your health plan determine the hospital?
Referring Physician			• Did your family physician admit you to St. Joseph's Hospital or was it another physician?

[a] Methodist Hospital of Indiana refused to release instrument.

Exhibit B (continued)
Questions Asked on Patient Satisfaction Survey[a]

FACILITIES	St. Joseph's Mercy Hospital	St. Vincent's Hospital	St. Luke's Episcopal Hospital
Hospital-General			
Room	•	• Cleanliness of my room	• Daily cleaning • Cheerfulness • Room temperature • Noise level in and around room • How well things worked (TV, call button, lights, bed) • Courtesy of the person who cleaned your room
Food	•	• Overall meal quality, considering my diet • Ease of reading/understanding menu	• Explanations you were given about your diet, if you were on a special diet. • Temperature of the food (cold foods cold, hot foods hot) • Quality of the food • Likelihood of getting the food you ordered from the menu • Courtesy of the people who delivered your meal trays

TRANSITIONS	St. Joseph's Mercy Hospital	St. Vincent's Hospital	St. Luke's Episcopal Hospital
Admission		• Courtesy of staff in admitting • Courtesy of transportation escort • Waiting time to get a room	• Speed of admissions process • If admitted through the Emergency Room, overall care and treatment you received there
Transfer	• I experienced a smooth transition in the transfer from the Surgical Intensive Care Unit to the Intermediate Care Unit (ICU) • I experienced a smooth transition in my transfer from intermediate Intensive Care to Unit 2000.	none	none
Discharge	• My discharge from the hospital went smoothly.	• How adequately prepared I was for discharge • Length of time to be discharged	• Hospital/physician concern not to discharge you too soon • Speed of the discharge process, after you were told you could go home • Courtesy and assistance you received from the business office/cashier

CHOICE OF HOSPITAL	St. Joseph's Mercy Hospital	St. Vincent's Hospital	St. Luke's Episcopal Hospital
Influences		none	none
Decision maker			• Who was MOST responsible for your decision to come to St. Luke's (Physician, Insurance/health plan, Family or friend, Your personal choice)
Referring Physician		none	none

[a] Methodist Hospital of Indiana refused to release instrument.

Exhibit B (continued)
Questions Asked on Patient Satisfaction Survey[a]

DEMONSTRATION AWARENESS			
	Boston University Medical Center	Ohio State University Hospital	St. Joseph's Hospital -- Atlanta
		• As a heart surgery patient, were you aware that you were a participant in a special Medicare demonstration project sponsored by the Federal government? • Were you aware that this project provided you with only one bill to cover all charges of your surgery: both hospital and physician bills? • Who told you or how did you find out that you were a participant in this special Medicare project?	
BILLING			
	Boston University Medical Center	Ohio State University Hospital	St. Joseph's Hospital -- Atlanta
General		• I was satisfied with the billing office.	
Single Bill		• Compared to my previous experience with billing for a hospitalization, I found the single bill payment system to be much: more convenient, easier, more understandable. • I found the single bill payment system to be: more convenient, easier, more understandable. • The single bill payment system should be more widely available for other types of hospitalizations. • A single bill combining hospital and physician charges would play a part in how I would choose a hospital in the future. • I am more satisfied as a heart bypass surgery patient because I had only a single bill.	
Communication		• Were you aware that this project provided you with only one bill to cover all charges of your surgery: both hospital and physician bills.	

[a] Methodist Hospital of Indiana refused to release instrument.

Exhibit B (continued)
Questions Asked on Patient Satisfaction Survey[a]

DEMONSTRATION AWARENESS			
	St. Joseph's Mercy Hospital	St. Vincent's Hospital	St. Luke's Episcopal Hospital
	• Did you know SJMH is one of four Medicare Participating Heart Bypass Centers in the U.S. before you came to the hospital? • How did you hear about this heart bypass program?		

BILLING			
	St. Joseph's Mercy Hospital	St. Vincent's Hospital	St. Luke's Episcopal Hospital
General	• Any questions I had about my insurance coverage were answered by the hospital staff in an efficient and courteous manner.	• Courtesy of Business Office Staff • My understanding of the billing process	
Single Bill			
Communication	• I did not receive a bill -- I received only an explanation of benefits provided by my insurance company and/or Medicare.		

[a] Methodist Hospital of Indiana refused to release instrument.

Exhibit B (continued)
Questions Asked on Patient Satisfaction Survey[a]

PATIENT EDUCATION	Boston University Medical Center	Ohio State University Hospital	St. Joseph's Hospital -- Atlanta
Pre-Operative	• I received clear instructions and explanations before going to surgery about what to expect. • The pre-printed information packet describing heart surgery was helpful.		
Hospital Stay	• I received explanations (about test results, etc.) and answers to important questions that I could understand. • Results of surgery were explained in an understandable way.		
Post-Discharge	• I felt comfortable caring for myself at home with instructions I received. • In the event of an emergency or if I had a question after going home, I felt safe knowing whom to contact.	• Adequate home care instructions were provided. • Home care instructions were explained in terms I understood. • At discharge, I was aware of the signs and symptoms to look for to alert me to possible problems. • I was aware of whom to call for help if such signs and symptoms became apparent.	

a Methodist Hospital of Indiana refused to release instrument.

Exhibit B (continued)
Questions Asked on Patient Satisfaction Survey[a]

PATIENT EDUCATION	St. Joseph's Mercy Hospital	St. Vincent's Hospital	St. Luke's Episcopal Hospital
Pre-Operative		• Information/Instruction before surgery • Information about anesthesia	• Adequacy of explanations of tests and treatments
Hospital Stay		• Information about surgical procedure	
Post-Discharge	• I knew how to take care of myself when I got home. • The nurses taught my family members about the care I would need after my discharge.	• The preparation given by nurses to help manage my care at home	• Advice you were given by the nurses about caring for yourself at home, and about follow-up care • Instructions you were given about how to care for yourself after discharge

a Methodist Hospital of Indiana refused to release instrument.

APPENDIX C

QUESTIONS ASKED ON THE PHYSICIAN SATISFACTION SURVEYS

Exhibit C
Questions Asked on Physician Satisfaction Surveys

	Boston University Medical Center	St. Joseph's Mercy Hospital	St. Vincent Hospital and Medical Center
FACTORS INFLUENCING PHYSICIAN CHOICE		• Rate these factors in terms of importance in your relationship with a surgeon.	
FACTORS INFLUENCING HOSPITAL CHOICE		• In which hospital(s) do you prefer your cardiac patients to be treated? • What influences your preference in selecting a hospital?	
QUALITY OF CARE / OVERALL SATISFACTION	• Please indicate your satisfaction with assistance to patients and their families with hotel reservations, travel directions, and parking arrangements when necessary. • Please indicate your satisfaction with pre- and post-procedure patient education materials. • How do you believe your patients would rate the services received overall by these departments: cardiology; cardiothoracic surgery.	• Are you satisfied with the care provided to your patients by your surgeons?	• Overall, how do you rate the quality of care provided at this hospital? • Your ability to measure the quality of care provided by your practice. • Would you use this hospital yourself if you needed care that it offers? • What are the most positive aspects of practicing medicine at this hospital? (written comments) • What are the day-to-day frustrations you experience in your practice at this hospital? (written comments) • What could the hospital do to make it easier for you to practice medicine the way you would like? (written comments)
QUALITY OF SERVICES		• Do you believe our surgical group provides "State of the Art" approaches to the following? (Coronary Artery Bypass, Valvular Procedures, Arrythmia Surgery, Pulmonary Surgery, Esophageal Surgery, Thoracoscopy, Thoracic Vascular Problems, Other General Thoracic Surgery) • Do you believe our surgical group should perform cardiac or pulmonary transplant surgery? • Are there other areas in which our surgical group should provide surgical services?	• Evaluate the quality of each of these hospital-based medical specialties regarding Communication with you and other physicians, Availability to you and other physicians, and Skill and Efficiency: (Anesthesiologists, Pathologists, Radiologists, ER Physicians)

Exhibit C (continued)
Questions Asked on Physician Satisfaction Surveys

	Boston University Medical Center	St. Joseph's Mercy Hospital	St. Vincent Hospital and Medical Center
STAFF		• Please rate the level of satisfaction you have experienced in the service of our surgeons to you and your patients as follows: Prompt response to your needs Concern for your responsibility to your patient Availability to you for: Pre-op conference, Post-op care Adequacy of follow-up: Timeliness, Completeness Responsiveness of our Clinical Nurse Specialist staff Responsiveness of our office staff • Please rate our surgeons as to your opinion of their performance (Availability, Patient Communication, Cooperation) • Please rate your patients' response to the nursing staff at our hospital • Do you consider our clinical nurse specialists an important part of our total service to you and your patients? • Please rate your patient's response to our office staff services (Courteous, Empathetic and Concerned with family, Professional service) •	• How promptly and accurately nurses respond to physician's orders. • Extent to which nurses call physicians when necessary and don't call when not necessary. • Extent to which the medical staff are justified in bragging about administration at this hospital. • Availability of well-trained medical staff to manage emergencies. • How well nurses communicate with physicians. • Same nurses employed over time (i.e., low turnover) • Extent of courtesy and respect patients are given; friendliness and kindness nurses show patients. • Extent to which units and shifts are adequately staffed. • Availability of well-trained nursing staff to manage emergencies. • Administrator's ability to manage the hospital. • Amount of time and effort administrators spend on the continuous improvement of quality. • Extent to which administrators are open to physicians' suggestions and solicit their ideas; extent to which physicians believe they are part of the decision making process.

Exhibit C (continued)
Questions Asked on Physician Satisfaction Surveys

	Boston University Medical Center	St. Joseph's Mercy Hospital	St. Vincent Hospital and Medical Center
CONTINUITY OF CARE		• Cardiovascular & Thoracic Surgeons of Ann Arbor try not to duplicate tests of services that either have been or can be accomplished by the referring physician. Are there situations where duplicate tests were unnecessarily performed of the tests could have been performed by you? • Would you prefer to be involved immediately in the postoperative Coumadin regulation? • Would you like to see your patient postoperatively? • Please indicate the areas of postoperative management in which you would you like to participate.	• Access to Diagnostic tests and results: Speed, accuracy, and efficiency of tests and timeliness of results. • Posting of Clinical Information: How quickly lab, x-ray, consults, and operative reports get into chart. • Transcription Service: Speed and accuracy.
COMMUNICATION (PRE-ADMISSION AND POST-DISCHARGE)	• What communications from an attending physician do you wish to receive about patients you refer? • During the past year, did Boston University Medical Center's Attending Physicians meet the patient information requests that you checked above? • Please indicate your satisfaction with timeliness and completeness of communications from physicians. • Throughout the year, you were sent publications that included information about Cardiac Care services at Boston University Medical Center. What communications do you recall receiving: Clinical Services Directory; letter from Richard J. Shemin MD, Chief, Cardiothoracic Surgery; Annual Report; Cardiovascular Care Center Referral Guide; Clinical Highlights?	• Regarding the method by which you are notified of your patient's status, rank the importance of the following: • In your practice, who directs patients to Cardiovascular & Thoracic Surgeons of Ann Arbor?	

Exhibit C (continued)
Questions Asked on Physician Satisfaction Surveys

	Boston University Medical Center	St. Joseph's Mercy Hospital	St. Vincent Hospital and Medical Center
REFERRAL PATTERNS	• Approximately how many referrals do you make annually for Cardiac Catheterization Coronary Artery Bypass Surgery? • Did your referrals to Boston University Medical Center change during this past year because of information you received about the Medicare Participating Heart Bypass Center demonstration and other cardiac care services? • How would you best describe your referral pattern to Boston University Medical Center this past year?	• Do you refer to the Cardiovascular & Thoracic Surgeons of Ann Arbor as a whole or to the individual physicians? • Approximately what percent of your total patients do you refer to cardiovascular surgeons? • Do you refer exclusively to Cardiovascular & Thoracic Surgeons of Ann Arbor? • Are you satisfied referring to a group of surgeons? • Is it your preference to select one surgeon within our group for referrals? • Do you understand the relationship of the surgeons to the Michigan Heart and Vascular Institute and St. Joseph Mercy Hospital?	
SCHEDULING	• Please indicate your satisfaction with promptness in scheduling patient procedures.		• How well cases are scheduled to use physicians' item most efficiently • Ease of scheduling and performing surgical procedures with minimum inconvenience and delay for physicians. • Ease of scheduling and performing laboratory tests with minimum inconvenience and delay for patients.
POST-DISCHARGE GAPS IN CARE			
DISCHARGE			• Hospital staff's efforts to provide for patients' needs after they leave the hospital. • Time it takes to be discharged from the hospital and how efficiently it is handled.
FACILITIES			• Availability of state-of-the-art equipment • How well medical equipment is maintained. • Availability of state-of-the-art equipment to manage emergencies.

Exhibit C (continued)
Questions Asked on Physician Satisfaction Surveys

	Boston University Medical Center	St. Joseph's Mercy Hospital	St. Vincent Hospital and Medical Center
SPECIAL HOSPITAL PROGRAMS	• Are there any special physician services that you would like the Boston University Medical Center to initiate for referring physicians. • Did any patients referred for Coronary Artery Bypass surgery comment to you about any special services they received as participants in the Hospital's Medicare Participating Heart Bypass Center demonstration.	• Are you interested in participating in the Michigan Heart and Vascular Institute summer conference? • Michigan Heart and Vascular Institute has conferences/workshops on June 4-5, 1993. Are there any topics that you would like thoracic surgeons to discuss at a conference?	
INTERACTION WITH PATIENT'S FAMILY			• How effectively and sensitively families of inpatients are handled throughout their interaction with the hospital.
PHYSICIAN CHARACTERISTICS			• What is your primary medical specialty? • Are you board eligible or certified in this specialty? • In what year did you graduate from medical school? • Are you on active medical staff of the hospital referenced in the cover letter? • How many years have you practiced at this hospital? • About how many patient in total do you admit to a hospital per month? • About how many patients do you admit to THIS hospital per month? • About how many outpatient procedures do you perform or conduct at this hospital per month?